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ZANZIBAR PROTECTORATE

LEGISLATIVE COUNCIL

Programme of Social and Economic Development in the Zanzibar Protectorate for the Ten-Year Period, 1946 to 1955

To be laid before the Legislative Council by the Order of His Excellency the Acting British Resident

INTRODUCTORY.

The programme for the future social and economic development of Zanzibar was initiated in 1942, when Sir Guy Pilling, K.C.M.G., the then British Resident, gave orders for a comprehensive policy to be drawn up in draft under the separate development heads. In 1943, after prolonged consideration by the Welfare Committee, a memorandum was framed setting out the broad policy to be pursued in the social development of the Protectorate during the post war years. His Excellency forwarded this memorandum in due course to the Secretary of State as the outline of the future policy of His Highness's government. The Secretary of State substantially endorsed the general principles of the memorandum, which was then released to the Development Committee for discussion with those its members represented. Meetings of both Welfare and Development Committees followed in which the proposals received further study. The next stage was the preparation of detailed departmental programmes, with estimates of costs, with a view to their embodiment in a comprehensive development plan.

2. It had early become apparent that local resources would be wholly inadequate to finance the expansion of social services deemed desirable, and consequently the Secretary of State was acquainted with this fact, with a view to an application being forwarded in due course for assistance under the Colonial Development and Welfare Act, 1940. The Secretary of State received this suggestion sympathetically, and instructions to proceed with the end in view were issued to the Heads of the Departments of Agriculture, Education and Medical Services, and to the Town Planning Board. The Chairman of the Town Planning Board visited England in 1945, and a scheme of assistance for the reconstruction of the native town of Ngambo, which included proposals for contributions towards the programme to be made available by the Protectorate itself, was approved by the Secretary of State in July, 1945.

3. In the meanwhile, the remaining departmental programmes had been drawn up. For the purpose of determining the implications of a ten year plan (i.e. 1946 to 1955), which had by that time been laid down by the Secretary of State, they were informed that actual expenditure incurred during 1944 was to be accepted as the norm, and that any new services or expansion of existing services introduced or contemplated after the 1st of January, 1945, were to be treated as development services.

4. During the preparation of these programmes, two other projects came under consideration. The first was the reclamation of the creek in the vicinity of Funguni Spit, in connection with which Sir Robert Bristow, an engineer of considerable experience, paid a visit to Zanzibar and prepared a preliminary scheme. The second was the complete reorganisation of the drainage system of Zanzibar town, and for this a scheme was drawn up by Mr. Hugh Dixon, of the firm of Messrs. Howard Humphreys and Sons, of London, who visited the Protectorate in November, 1945.

5. By the autumn of 1945, all the schemes, with the exception of that concerned with drainage, together with a financial appreciation of the ten year period, had been sent to the Secretary of State by Sir Guy Pilling. While these memoranda were still under consideration, however, notification was received from the Secretary of State of the generous allocation to Zanzibar, under the Colonial Development and Welfare Act, of a block grant of £750,000. It was clear that any attempt to bring the whole cost of the programmes within compass of the grant would have meant a degree of excision which would have rendered them in some respects inoperative; and the proposal was then made by the Secretary of State that, as in the case of the Town Planning Scheme, contributions should be made by the Protectorate from its surplus balances and revenues, and by the raising of loan funds, in order that His Highness's Government should not let slip the great opportunity of putting into operation a programme which would effectively cover most of the Protectorate's activities.

6. The readiness of His Highness's Government to undertake the greater part of the complete programme, provided means could be found to do so with safety to the financial stability of the Protectorate, was immediately communicated to the Secretary of State. But it was clear that, before any further progress could be made, the following issues required to be determined:—

(a) the allocation of the block grant of £750,000 to the various projects included in the ten year programme;

(b) the extent of the Protectorate's own contribution from surplus balances and revenue;

(c) the amount to be made available by loan, if need arose, and the objects to which such funds should be applied;

(d) the extent to which, and the manner in which the component parts of the ten year programme would require adjustment in the light of the foregoing factors.

7. It was therefore proposed to the Secretary of State that the most satisfactory and expeditious way to reach a final decision on these matters would be by discussion between his advisers and the Acting Chief Secretary (who is also Chairman of the Town Planning Board), the Director of Education and the Senior Medical Officer-in-Charge. The attendance of the Director of Agriculture was not considered necessary since, as later proved to be the case, it was not expected that his departmental programme would need to be revised. The suggestion was readily accepted, and the two first mentioned officers flew home; the third, who was on leave, having preceded them. It is entirely due to the extremely able fashion in which the views of Government were presented by Mr. Baker-Beall, the Acting Chief Secretary, to the helpful assisance of Dr. Earl, the Senior Medical Officer-in-Charge, and of Mr. Harvey, the Director of Education, and, above all, to the advisers to the Secretary of State, who devoted much time and study to our problems, that difficulties which would have taken many months to solve by telegram and despatch, were successfully overcome in the space of less than a month. His Highness's Government has every reason to be grateful to the Secretary of State for approving this process of direct approach.

8. After these discussions had ended, the Secretary of State communicated his views on the ten-year development programme to the Acting British Resident, and these are reproduced as an Appendix to this Sessional Paper. The latter, in reply, has welcomed the conclusions of the Secretary of State, subject to ratification by the Legislature, and to certain financial safeguards for the future. The detailed programmes which make up the ten year plan, revised, where necessary, to conform with the above conclusions, are set out in subsequent sections of this paper.

9. It is intended that a small official Board should be established as the authority responsible for the carrying-out of the various capital projects included in the development programme. With this authority will be associated fully representative advisory committees on Agriculture, Education, Health, Town Development and Communications respectively. It is intended that the assistance of these Committees should also be sought by Heads of Department, as need arises, in the formulation of departmental development policy. The composition of these bodies is now under consideration, and, subject to the acceptance by the Legislative Council of the motion to adopt this Sessional Paper, it is hoped to announce their personnel at an early date.

AGRICULTURE.

10. The Agricultural Development Programme is grouped into four broad objectives as shown below:—

A. Crop Development.

1. Survey, Investigation, Demonstration and Development of Crops other than Cloves and Coconuts.
2. Clove Regeneration.
3. Copra Production.
4. Afforestation Survey, Anti-erosion and Utilisation of Semi-wanda areas.

B. Crop Research.

5. Clove Research.

C. Stock Development.

6. Survey of Cattle Diseases in Zanzibar and Pemba.
7. Disease Control.
8. Development of Cattle Industry.
9. Pasture Improvement.

D. Education.

10. Agricultural Training Course.

A. CROP DEVELOPMENT.

1. Survey, Investigation, Demonstration and Development of Crops other than Cloves and Coconuts.

11. The scheme is based on an intensive campaign in respect of a limited number of promising crops, both for export and local consumption. This is to be achieved by a detailed survey and investigation in respect of each crop, as and when necessary, followed by field demonstrations, developmental propaganda, and seed and plant distribution.

12. A selected list of crops for development, with explanatory notes as to the objectives, existing related work or service, and the plans and methods of development is furnished in the following paragraphs. This list should not be considered final, neither does it necessarily follow that each and every crop will prove worthy of extensive development.

Rice.

13. Rice is the basic food of the population of Zanzibar and Pemba. In former days it was an important local industry for internal consumption and even export. The gradual change to a cash economy, principally dependent upon cloves and copra, and the influx of cheap polished rice, caused local paddy production to contract to very small proportions. Thus, many thousands of acres of good rice land lay largely uncultivated for several generations prior to the present war-time expansion. The haphazard and spasmodic cultivation of rice also led to the loss of valuable strains of seed suited to local conditions, and the periodic revival of rice growing was severely handicapped by shortage of suitable seed. Elderly people, and especially women, have always done a little rice cultivation as one of their principal means of livelihood.

14. As a result of the sudden stoppage of the principal source of supply—Burma—the Zanzibar Government was faced with the task of developing a local industry. Between 1942 and 1944 the industry, entirely a peasant one, was developed to the extent of over 20,000 acres of rice in the Protectorate. As a result of this the large rural population in the rice areas in both islands have become largely independent of imported grains. This has meant that all imported rice could be devoted to feeding the large town population of Zanzibar and Pemba—about one-third of the total population of the Protectorate—and it is considered that this section of the people would always be largely dependent upon imported sources of supply. Much imported seed had to be distributed, and public nurseries for the distribution of seedlings were organised during the early years of the food growing campaign. Now people have been taught to conserve their own seed supplies and it is most gratifying to visit house after house in the peasant communities and see five, eight, ten, or even twenty bags of paddy stored against the family's needs for the coming twelve months. It is certain that these people and their children have enjoyed a more ample and regular diet as a result of this home industry than ever they did in pre-war days. In those times, enormous quantities of rice were consumed when, as a result of good prices for cloves and copra, money was in free circulation; but, at other times, the peasant and his family were hard put to it to find even a bare maintenance ration, and they never had behind them those few sacks of grain which are now a feature of most country households.

15. It must be observed, in parenthesis, that the cultivation of paddy has not proved to clash with the harvesting of the clove crop. In 1943, for example, a 10½ lakh clove crop, a bumper one, was successfully harvested by local people without the usual influx of labour from Tanganyika, and in the same seasonal year more than 20,000 acres of paddy were grown and harvested. Rice production in Zanzibar is therefore regarded as a beneficial, indeed an essential cottage industry much in the same way as most rural dwellers in England grow a patch of potatoes. Their idea is not to compete with commercial growers of potatoes, but to augment the family food supply by growing an essential and easily stored food which, on the family budget, costs nothing because it is the product of family labour. The aim with regard to Zanzibar paddy growing is similar. A source of internal wealth and a means of ensuring a regular and adequate basic diet for the peasant have been developed as a war-time emergency. The maintenance and improvement of this industry, on a family basis in suitable localities, is considered to be of fundamental importance. Widespread harvest surveys, covering three years, have shown that paddy yields in Zanzibar compare favourably with those of native rice growing in other parts of the world.

Objectives.

16. (1) To foster rice growing, as a peasant family project for home consumption, in all suitable localities in the Protectorate.

(2) To develop rotational cropping of rice lands as a means of maintaining fertility, keeping the land clean, reducing the labour of rice cultivation itself and adding to the family food supply or cash assets.

Existing Related Work or Service.

17. A considerable amount of information as to the methods of rice cultivation, varieties grown, yields in areas of low, medium, and high production, and numbers of people engaged in rice cultivation has already been gained as a result of island-wide surveys. Also, experimental work has been going on at the Experiment Station at Kizimbani on variety trials, single plant selections, time of planting, spacing, and manuring, as well as the very important aspect of rotational cropping of rice land. We are, therefore, at a comparatively advanced stage in our knowledge of the local industry and of preliminary experimental work.

Plans and Methods of Development.

18. (1) Continuation of surveys of all rice areas and native crop production by localities and varieties.

(2) Continuation of cultural trials, especially in regard to rotational cropping, bunding and water control generally, time of planting in different localities and on different soil types, spacing, weed control, systems of seed planting as opposed to transplanting, bird scaring and harvest methods.

(3) Manurial trials on different soil types, especially the use of local products or by-products such as coconut meal (already proved to be a valuable source of organic nitrogen), husk ash (from copra kilns), lime (produced in vast quantities on the coral wanda), and compost.

(4) Continuation of variety trials, and the multiplication of proved high yielding strains of paddy for introduction to native paddy areas on an organised plan.

(5) Investigation of the control of common pests and diseases (e.g. Helminthosporium spp.), particularly by cultural methods which the people can themselves apply.

(6) Drainage and irrigation of water-logged swamps and river valleys liable to flooding, and other methods of water control and usage.

(7) The erection of small paddy hullers at carefully chosen sites, which would also be Government demonstration centres, to process small quantities of peasant paddy as and when required.

(8) The demonstration and development of parboiling at the above centres.

Vegetables.

Objectives.

19. The war years have seen an enormous expansion of local vegetable growing, principally for consumption in the town markets. Figures showing the total value of vegetables passing through the town market of Zanzibar from 1942 to 1945, make this clear:—

	1942	1943	1944	1945 (January to July).
Total value of vegetables sold in town market ...	£3,029	£2,448	£5,050	£3,420

20. In addition to commercial production, private growing of vegetables has increased enormously. Both have been greatly assisted by the drainage of certain water-logged swamps, and the manufacture of compost in large quantities for sale at reasonable prices. The town of Zanzibar itself, which includes a considerable section of population which is vegetarian, forms a permanent and very important consuming market for all kinds of fresh vegetables. Certain sites, within the vicinity of the town, appear to offer considerable possibilities for vegetable growing on a commercial scale. Another most important aspect, however, is that of encouraging the growing and consumption of vegetables as catch crops in certain suitable rural localities. Vegetables form a notable deficiency in the diet of the population of Pemba, and it is not possible to see how this can be made good in any other way than by local production.

Existing Related Work or Service.

21. A considerable amount of preliminary investigation on vegetable growing generally has been carried out at the Kizimbani Experiment Station. Many varieties have been tried at all times of the year both with and without shade. A useful summary of the work up to 1942, appears as an appendix to the Kizimbani Annual Report for the year. Since then the trial of vegetables has been very limited owing to the difficulty of obtaining seed supplies. For the same reason seed of all those vegetables which seed freely at coast level has been produced by the Department to supply local growers, and useful information on this aspect has been collected. Certain co-operative vegetable growing clubs have been formed since 1943, and have worked well, thus providing much useful knowledge as to the management of such enterprises and the running of communal nurseries for seedlings and other plant material. The experience gained in the technique of large scale compost manufacture has added, in no small degree, to success.

Plans and Methods of Development.

22. It is considered that the development of vegetable growing should be tackled on an island-wide basis, and related to the other swamp and pond drainage projects, the manufacture of compost and fertilizer experiments.

(1) The first step would, therefore, be a survey of existing vegetable production areas in the island, divided, for the sake of convenience, into:—

(a) European and related vegetables;
and
(b) Native vegetables.

(2) Seasonal production of vegetables in relation to local markets and demand.

(3) Continued testing of new varieties on different soil types.

(4) Survey of potential sites for development; soil, water supplies, drainage, transport facilities, labour supply, manurial requirements, vermin and pest control.

(5) Development of one or two suitable areas near the town, assuming that, if this experiment proved successful, future expansion could largely pay for itself. Demonstration plots and plant nurseries would be attached.

(6) Development of small native industries, e.g. tomato growing at Ndijani, in conjunction with departmental district demonstration plots.

(7) Production of high grade seed and planting material, more especially in connection with native vegetables, for the improvement of the family diet.

(8) Marketing on a co-operative or Government assisted basis for those areas far removed from the centres of demand.

Cassava.

23. Cassava grows well in Zanzibar and Pemba producing high yields on fertile soils. During the present war-time food shortage all able-bodied men have cultivated cassava, and a very considerable acreage of the crop exists at present.

Objectives.

24. To develop a cassava starch industry in Zanzibar and Pemba. This will exploit the large areas of soil not planted to mature cloves, and assist in the replanting of young cloves for which cassava is an excellent nurse crop. It is also proposed to develop the domestic use of cassava, such as the preparation of farine, cassava biscuits and tapioca.

Existing Related Work or Service.

25. Cassava growing has been part of the work of the Kizimbani Experiment Station for many years, and trials have been undertaken to determine some of the cultural requirements of the crop. Varietal, cultural, manurial and seasonal trials have yielded useful knowledge. A large number of local and imported varieties have been tested, and seedling selection work is also in progress. High yield and disease resistance were criteria in all of these trials.

Plans and Methods of Development.

26. (1) All available data on the manufacturing aspects of the cassava industry should be studied, and market requirements determined both as to quality and types of product.

(2) Cultural and manurial trials should be continued to determine the most economic method of producing the starch.

(3) The seasonal availability of the crop should be considered, and trials made to ensure a regular supply.

(4) Investigations into the control of virus disease should continue, as well as the testing of new varieties as they become available.

(5) Likely areas for expansion may be sought, and the production of cassava should be related to other crop needs, such as the regeneration of cloves. Cassava development must go hand in hand with anti-erosion measures in the Pemba clove areas.

(6) Small machinery units should be purchased and made available at demonstration stations.

(7) Teaching and propaganda will be needed to spread information as to virus disease and erosion control methods.

Fruit.

27. Fruit is grown in fair quantities in Zanzibar island, but Pemba island is notably deficient in all fruit. From Zanzibar a small but useful export trade is carried on with oranges and pineapples to local East African markets and to ships. Trial canning of pineapples for a proposed export trade to Europe and elsewhere has been undertaken, but the results were not encouraging. Similarly, trial shipments of local oranges to India were not altogether successful.

Objectives.

28. To increase the supply of fruit of all kinds for local consumption, and especially of citrus fruit in Pemba. At present it is not proposed to develop an export trade, but to maintain and improve the purely local trade with adjacent countries. The local processing of preserves for home consumption would be encouraged.

Existing Related Work or Service.

29. Selection work with local and imported orange and grapefruit has been undertaken.

30. The Department of Agriculture has considerable experience of pineapple production, and has conducted field experiments into the pineapple's manurial and cultural requirements.

31. The present fruit nursery at Kizimbani produces large numbers of fruit plants annually for sale to the public, and a fair knowledge of vegetative propagation methods has been acquired by the junior staff.

PLANS AND METHODS OF DEVELOPMENT.

32. In general the expansion of fruit tree planting will be best undertaken by an expansion of the present Government system of nurseries for the sale of plant material to the public. More nurseries should be constructed in conjunction with the proposed establishment of sub-stations and demonstration plots in both islands.

33. As some doubt exists as to the general suitability of Pemba island for citrus production, initial trials should be made in areas known to be suitable for oranges, e.g. Fundo Island.

34. A nursery and trial plantation should be established at a few such places in the first instance.

35. The introduction of "Gros Michel" bananas, via Amani or Kew, should be considered, with additional quarantine measures on arrival in the shape of initial planting at some isolated place, such as an island at Pemba, if this can be undertaken without risk of introducing Panama disease.

36. The use of compost in fruit production should be further developed.

TOBACCO.

37. Tobacco grows well in the light sandy soils of the wanda and the semi-wanda of both Zanzibar and Pemba. There is an important local trade to Somaliland in coil tobacco, and the British American Tobacco Company are interested in the possibilities of building up a trade in light cigarette and pipe tobacco.

OBJECTIVES.

38. To develop the tobacco industry in the non-clove areas, with a view to an increased export trade.

PLANS AND METHODS OF DEVELOPMENT.

39. (1) Investigation of market requirements.
(2) Study of the existing local industry.
(3) Survey of likely areas for development.
(4) Trials of tobacco suitable for known market requirements.
(5) Cultural trials.
(6) Demonstration plots:
  (a) Government controlled.
  (b) by local cultivators.
(7) Production and distribution of seed.
(8) Advisory field work with utilization of compost.

CACAO.

40. Cacao trees of the Forastero and Criollo varieties, though only in very small numbers, have grown well in both Zanzibar and Pemba for many years, and it is thought that it might provide an alternative cash crop to cloves.

41. There are the further advantages that the processing of cacao is not dissimilar to that of cloves, and its partial substitution for the latter crop would spread the demand for labour more evenly over the year.

OBJECTIVES.

42. To grow cacao on an experimental and demonstrational scale, with a view to establishing it as a third permanent cash crop in the clove and coconut areas.

EXISTING RELATED WORK OR SERVICE.

43. Introductions of both Forastero and Criollo types were made many years ago, and a number of trees exists in both Zanzibar and Pemba.

44. Records of the Zanzibar trees covering a period of three years are available, and it was previously the intention to plant a five acre block for yield trials and fuller observation of the Forastero type on a statistical basis.

PLANS AND METHODS OF DEVELOPMENT.

45. It has since been decided that, as the Criollo variety of cacao appears to thrive in both Zanzibar and Pemba, and in view of its superior quality, it would be better to concentrate on this type.

46. The following work will be undertaken:—
(1) Establishment of small plantations of cacao, both as a pure stand and in combination with cloves, at Kizimbani and one other centre in Zanzibar, and at Limbani in Pemba.

(2) Study of establishment methods, with especial reference to shade, planting distance, subsequent cultivation, and disease.

(3) Selection of trees for compatibility and yield, and the adoption of modern propagation technique.

(4) Experiments in fermentation and drying, to arrive at methods suited to the variety and climate.

(5) Distribution of planting material to cultivators for the establishment of either pure stand cacao plantations or for interspacing with cloves.

Sorghum.

47. Sorghum is a popular local foodstuff and complementary grain crop to rice in the Protectorate, in so far as it is the principal grain produced in the non-rice growing localities, especially the dry and often very isolated wanda and semi-wanda areas. The local demand for this grain exceeds the supply. The present sorghums are of the open panicle, white seeded type, and it is considered that there are decided possibilities of introducing better yielding strains.

Objectives.

48. To increase the supply of sorghum grown as a local foodstuff.

Existing Related Work or Service.

49. Introductions have been made from time to time and, after growing and testing, seed distributed to farmers. One short stalked variety was particularly successful.

Plans and Methods of Development.

50. (1) Trial of local and introduced varieties.

(2) Cultural methods.

(3) Disease.

(4) Manuring, with especial reference to the use of farm yard manure and compost.

(5) Bulk selection of seed.

(6) Demonstration farms.

(7) Distribution to cultivators.

Coffee.

51. Over 100 tons of raw coffee are imported annually into the Protectorate. This quantity of low grade coffee might well be supplied by local production. Coffee, certainly the liberian variety, grows well in Zanzibar; provided it is well cultivated and supplied with organic manure.

Objectives.

52. To develop coffee as a small holder's crop in Zanzibar and Pemba to supply domestic needs. An export trade is not envisaged.

Existing Related Work or Service.

53. Liberica, excelsa and robusta coffees have been grown at Kizimbani. Of these liberica is the most promising, and plots of this species at Mkwajuni and Limbani stations have also done well.

54. Sales of large numbers of liberica seedlings have already been made to the public.

Plans and Methods of Development.

55. (1) Further varieties likely to succeed in Zanzibar might be imported and tried.

(2) The crop as grown at present in the Protectorate should be studied, with a view to finding suitable areas for expansion.

(3) The cultural requirements of coffee should also be studied in experimental plots, and, as its ready response to composting is known, the development of coffee growing should be accompanied by the utilisation of village waste as compost.

(4) Further demonstration plots in suitable areas should be established, and coffee hulling machines provided at the demonstration plots.

(5) An extension of the present system of Government nurseries will provide sufficient planting material for the public, but care should be taken to limit the earlier plots on private land to farmers who will look after the trees.

(6) Growers must be encouraged to cultivate their coffee trees adequately and to provide plenty of compost, or the very poor condition which is known to result from neglecting coffee will militate against the success of the development scheme.

Oil Palm.

56. The oil palm provides a very valuable vegetable oil in the form of palm oil and palm kernels as a secondary product.

OBJECTIVES.

57. To increase the cultivation of oil palms with a view to improving the dietary of the people and to establishing a useful local industry.

EXISTING RELATED WORK OR SERVICE.

58. An introduction of Deli type palms took place in 1936, and a block was planted at Kizimbani. Data as to fruit types, the fruit yields of individual trees, and oil extraction percentages are available.

59. Extraction has been by means of a small Duchscher press, and the oil has been sold locally, mainly to hospitals and schools.

PLANS AND METHODS OF DEVELOPMENT.

60. (1) Improvement in expression technique.
(2) Investigations as to the most economic acreage of trees to be served by one press.
(3) Investigations as to the possibility of groups of small plantation owners supplying one press.
(4) Distribution of planting material.
(5) Purchase of fruit, and expression demonstrations by Government in the first place.
(6) Transfer of presses to private hands; either shopkeeper or plantation owner.

CASHEW NUTS.

61. Large numbers of cashew trees grow wild on the poorer soils of northern and eastern Pemba which are quite unsuitable for clove production. The cashew trees grow well, and the nuts and fruit are consumed by the local population. Many thousands of acres of these poorer soils are not planted to any crops at present.

OBJECTIVES.

62. To establish, in these non-clove areas of Pemba, plantations and small holdings of improved varieties of cashew trees with a view to an export trade in whole nuts, or, if it proves practicable to open the nuts in the Protectorate, in kernels.

63. The cashew may well be a useful anti-erosion crop on hilly land.

64. Possible by-products, such as the shell resins, which are said to be of value in the plastics industry, should also be borne in mind.

EXISTING RELATED WORK OR SERVICE.

65. Enquiries have been made into the utilisation of the present indigenous cashews of Pemba, and it appears that the nuts are utilised as a foodstuff and that the local people are unwilling to sell them cheaply for export.

66. The Department imported an improved variety from Goa, and four plots of this type were established in Pemba, in 1939. The plots have since been neglected, but three have been revived and two more planted in 1945.

67. Some plantings of Goan trees have also been made in Zanzibar.

PLANS AND METHODS OF DEVELOPMENT.

68. (1) Published data, especially of Indian origin, should be studied, and information obtained on the cultural and manufacturing aspects of the crop.
(2) The market requirements should be closely examined, and samples of the Pemba type of nut submitted for report.
(3) The practicability of establishing a hulling plant in Zanzibar should be considered.
(4) Further trial plots might be set out in Pemba, and on these and existing blocks trials should be conducted to determine the cultural requirements of the tree. For example, spacing, manurial requirements and response to local organic fertilisers, and suitable catch crops.
(5) The distribution of improved planting material to selected farmers.

PAWPAWS AND PAPAIN.

69. The pawpaw grows vigorously in the Protectorate, especially on the coral rag areas. It would appear, moreover, that the plant is disease-free in Zanzibar.

OBJECTIVES.

70. To establish papain production as a cottage industry throughout the Protectorate, with especial reference to the wanda areas of coral rag.

EXISTING RELATED WORK OR SERVICE.

71. Papain has been produced at the Kizimbani Experiment Station, and several methods of production tested. The papain itself has been tested by the Government Pathologist and is apparently of good quality. The product has been utilised in the Government Hospital.

PLANS AND METHODS OF DEVELOPMENT.

72. (1) All available data on papain production should be studied.
(2) Market requirements should be ascertained.
(3) The most suitable methods of drying and of storage under peasant conditions should be determined and demonstration plots for teaching purposes planted in likely areas.
(4) Spacing trials and trials of local fertilisers, especially compost, should be undertaken at the wanda station.
(5) The marketing of the product will need careful organisation to avoid deterioration due to storage of the papain in peasants' houses for too lengthy periods.
(6) Storage and packing facilities will have to be provided in Zanzibar town.
(7) If a cottage industry is successfully established, export quality rules will have to be promulgated, accompanied by continuous instruction and advice to growers.

DERRIS.

OBJECTIVES.

73. To grow derris as a subsidiary cash crop, either for export or for grinding locally for use as an insecticide in connection with local vegetable production.

EXISTING RELATED WORK OR SERVICE.

74. Trials of derris, from a strain of high rotenone content imported from the East African Research Institute, have been conducted for several years in Zanzibar and Pemba. A sample of about 500 lbs. shipped to England towards the end of 1943, was favourably reported upon, having a rotenone content of 8.7%. Locally produced derris root sent to Amani for grinding forms an excellent insecticide against caterpillars on brassica. In 1945, a price of 1/1d. per lb. was offered for locally grown derris, with a minimum rotenone content of 5%, with a sliding bonus for every one-tenth of 1% in excess of this.

PLANS AND METHODS OF DEVELOPMENT.

75. (1) A study of world markets and possible internal requirements so as to ascertain what future prospects lie in derris production.
(2) Cultural trials on different soil types in Zanzibar and Pemba, with special reference to interplanting with other crops such as cassava, and also as a cash crop in the establishment of young clove or cacao plantings.
(3) Field trials as a peasant crop and demonstration thereof.
(4) Methods of planting, harvesting, storage and packing for export.

BIRDS-EYE CHILLIES.

76. Chillies form a small cash export crop in Zanzibar, and recent high prices may offer some prospects for expansion.

OBJECTIVES.

77. To revive the growing of birds-eye chillies as an export cash crop.

EXISTING RELATED WORK OR SERVICE.

78. Selection work has been carried out at Kizimbani, and a useful small and particularly hot strain was produced.

79. Seed has been distributed to farmers, but the crop has never become really popular.

80. Regulations for inspecting and grading are already in existence.

PLANS AND METHODS OF DEVELOPMENT.

81. (1) Investigation of markets and prices.
(2) Investigation of more satisfactory picking methods.
(3) Cultural and manurial experiments.
(4) Study of disease.
(5) Demonstration plots.
(6) Seed distribution to cultivators.

Experimental Sub-Stations.

82. Two agricultural sub-stations are to be set up, one in the wanda country, Zanzibar, and another, of 30 acres, in Pemba, probably as an extension of the present station at Limbani. The main function of these stations will be crop and stock investigations connected with the development schemes.

83. The Kizimbani Experiment Station provides for the agricultural and animal husbandry needs in the main clove, coconut and rice growing areas. But large tracts of semi-wanda and wanda areas, especially in Zanzibar, cannot be served from Kizimbani because the conditions are entirely different. There is an urgent need, therefore, to provide a sub-station for mixed farming suited to these conditions, and to demonstrate those methods to peasant farmers. Within the scheme has been included a station of 100 acres on which trials and multiplications of improved seed and planting material of food and cash crops will be conducted, together with the improvement of pastures and livestock development generally. A small demonstration holding will be established on the station, which will be in charge of an assistant agricultural officer.

84. In Pemba it is proposed that the work of the new sub-station will include the distribution of plant material, including citrus, with a view to building up a much needed supply of fruit for local consumption.

Demonstration Plots.

85. Nine plots, of approximately 10 acres each, for demonstrating the production of promising crops, are to be established. There will be four in Pemba and five in Zanzibar, one in each of the principal agricultural areas.

86. Processing plant, consisting of small rice mills, corn shellers, grinders, graters for cassava, coffee hullers, palm oil presses and certain cultivation equipment, will be available on these plots, together with cattle dips, for the use of local producers. Composting will form an integral part of the scheme of work for all stations.

2. Clove Regeneration.

87. The need for clove regeneration is regarded as an important part of the agricultural development programme. Five nurseries, three in Zanzibar and two in Pemba, are already established from funds provided by the Clove Growers Association. Seedling distribution from these commenced in 1944, and will continue until 1947, at the rate of 50,000 seedlings a year. In addition, ten further nurseries, seven in Zanzibar and three in Pemba, financed from Protectorate funds, will commence distribution of seedlings in 1946. The scheme provides £980 per annum for ten years for the maintenance of these nurseries, with an annual output of 100,000 free seedlings. In addition, it is proposed to continue the production and distribution of seedlings from Protectorate funds.

88. It is the intention to combine the planting and subsequent care and cultivation of the young trees, with the general scheme for development of other crops whenever it may be advisable to do so. This may prove to be a means of overcoming the alleged difficulties in financing the upkeep, cultivation and manuring of plantations in their unproductive early years.

3. Copra Production.

89. There is a strong need for improvement in the preparation of copra. It is intended to undertake a preliminary survey of the kilns in operation, in order to ascertain their condition as a result of the lack of maintenance materials during the war period. This will be accompanied by a registration of copra makers.

90. After the survey is completed the propaganda, education and demonstration campaign commences with a staff of three instructors, eight trained copra makers, and four *fundis* and four mates to assist in kiln construction where necessary.

91. Special efforts in the course of the propaganda campaign should be made to induce the larger plantation owners to build kilns themselves and produce copra, instead of selling nuts on the heap which is the prevalent custom. The matter of financial assistance in the form of loans for kiln construction, will be taken up with the Clove Growers Association.

92. As opportunity offers a systematic survey of the palm population will be made to ascertain its general condition and the advisability of undertaking regeneration to maintain satisfactory age groups.

93. It is the intention that the survey shall be undertaken, during the months of July and August, by the Produce Examiners on the permanent staff of the Department.

4. Afforestation Survey, Anti-erosion and Utilization of Semi-wanda Areas.

94. Certain areas of Zanzibar, notably the semi-wanda some distance from villages, and the poor sandy soils near town, are not suitable for ordinary crop projects but might be wholly suitable for the planting of trees for timber or fuel. The demand for building timber for the construction of houses is constant, and is likely to increase considerably if the rebuilding of Ngambo (the native quarter

of Zanzibar) forms a part of the development programme of the Protectorate. Firewood requirements of the town are also considerable and are at the moment being principally met from the "Sudden Death" clove areas within ten miles of the town. This supply will become completely exhausted in due course, when the remainder of the 1875-1885 clove plantings die out and are replaced by young trees. Another considerable demand for timber will arise if the scheme for controlled grazing of the town environs materializes. It is therefore clear that a considerable and growing local demand exists for timber and other tree products, and a strong case can be made for making use of land, at present put to little economic use, for the purpose of growing trees commercially.

OBJECTIVES.

95. The trial and establishment of trees on semi-wanda and other land, which is generally unsuited to the production of other crops.

EXISTING RELATED WORK OR SERVICE.

96. Certain plantings of Cassia siamea and other trees were made on a patch of semi-wanda by Wigg in 1934. Some of these trees have made fair growth although they have received no treatment other than a periodic cleaning of the surrounding firebelt. In the more fertile spots a good growth has resulted. The Prisons Department has planted up areas of poor sandy soil to closely spaced Casuarina, Eucalyptus, and other species. Several of these plantings have made quite astonishingly good progress, and the saplings now being thinned therefrom compare favourably for length, strength, and general toughness with the thick mangrove poles imported from Simbauranga (Tanganyika Territory), and sold at 6d. to 10d. each. The land thus planted was previously regarded as of no real value and was occupied by a poor cover of grass and weeds, providing meagre and poor grazing for cattle. Whilst the trees are saplings, a fair grass cover has grown under the light shade, indicating that grazing possibilities are not seriously prejudiced by tree planting in these areas.

97. It is proposed that the comprehensive objects of the scheme should be:—

(a) A survey of present and potential forest land, including mangrove.

(b) The preparation of plans for the proper utilisation of the poorest lands of the Protectorate, including the semi-wanda, poor areas near Zanzibar town and other waste land.

(c) A review of existing forestry legislation and proposals for more suitable legislation.

(d) A survey of local markets, with a view to determining their timber and firewood requirements.

(e) Anti-erosion measures including:—

(i) The establishment of forest nurseries and the supply of seedlings to interested landowners.

(ii) The establishment of experimental plantings on a variety of soil types.

B. CROP RESEARCH.

5. Clove Research.

98. This scheme forms an integral part of the Agricultural Development Programme, but its cost and organisation are provided for otherwise.

99. The programme of investigation now under consideration, follows, generally, the lines propounded by the Agricultural Committee of the Colonial Advisory Council on Agriculture in 1942, and is as follows:—

Cropping.

(a) The factors which induce cropping, e.g. planting distance, shape of trees and the use of ground covers, also the study of the incidence of vegetative growth on bud production.

(b) Physiological studies in relation to the growth of the tree, including soil and water factors, and sun and wind relationship.

(c) The effect of harvesting methods, branch denudation, bark exposure, loss of canopy, and age of trees.

(d) Nutritional factors, deficiencies and excesses, including minor elements.

(e) Inter-relationship of "Mwaka" and "Vuli" cropping, and seasonal fluctuations in yield.

Diseases.

(a) The "Sudden Death" condition.

(b) Die-back.

(c) Any other factors affecting the health of the tree, such as harvest damage, e.g. bark exposure and branch denudation, and root damage resulting from cultivation measures or sub-soil flooding.

Reproduction.

(a) By seed; Study of fertilization and seed development with a view to selfing and controlled crossings. Selection of parent seed trees. Seed planting and nursery practice.

(b) Vegetative propagation: Study of methods of vegetative propagation in the light of recent advances in technique. Special attention to be paid to the possibility of producing a dwarfing stock for the clove.

C. STOCK DEVELOPMENT.

6. Survey of Cattle Diseases in Zanzibar and Pemba.

100. This has already been provided for as Colonial Development and Welfare Research Scheme R. 33. (Vide paragraph 192).

7. Disease Control.

(a) Tick-Borne Diseases.

101. On the advice of the Veterinary Department, Tanganyika Territory, and as a result of the preliminary investigations of that Department in Zanzibar and Pemba, it is considered necessary to institute a complete control scheme throughout both islands and make dipping compulsory. This entails a greater number of dips than had previously been anticipated. The cost of construction has been reviewed, and it is estimated that each dip will cost £500.

102. There are at present three dips in Zanzibar, one of which is privately owned. Provision already exists under the Colonial Development and Welfare Act (Scheme No. D. 188), for the erection of a further one in the neighbourhood of Zanzibar town, and in addition a dip is to be established in the present programme at the experimental sub-station in the semi-wanda area. Three others are needed in the neighbourhoods of Mangapwani, Fumba and Makunduchi.

103. The preliminary visit to Pemba by a Veterinary Officer, Tanganyika Territory, has confirmed that East Coast Fever is prevalent throughout the island. He recommends the establishment of six dips at sites to be selected. This will ensure that few, if any, cattle are more than 5 miles from the nearest dip.

(b) Inoculation for Rinderpest.

104. The programme provides for yearly immunisation of all untreated stock.

8. Development of Cattle Industry.

105. This scheme makes provision for the continuance, as from the beginning of 1947, of the existing scheme D. 188 under the Colonial Development and Welfare Act. Scheme D. 188 is itself a continuation of the original scheme No. 572.

The programme of work provides for the maintenance of the Government Stock Farm, and the upkeep of two cattle dips for a further period of five years.

9. Pasture Improvement.

106. The poverty of the soils of the grazing lands in the neighbourhood of Zanzibar town is evident. There are good grounds for believing that, although these areas were never intrinsically rich, what fertility they possessed has been gradually dissipated, and that they have now reached such a low state of fertility that investigations should be conducted with fertilizers for their betterment. The investigations will be based on the effects of fertilizers which are available locally, notably lime, phosphorus from the Guano deposits on Latham Island, potash from burnt coconut husks, compost from controlled dumping of town waste, and residues from the expression of oil from copra.

107. The planting of trees in conjunction with pasture improvement is also envisaged.

D. EDUCATION.

10. Agricultural Training Course.

108. There is need for instruction in the practical application of scientific agriculture. A course is planned which would be comparable to that of the County Farm Institute in England, and open to all classes. It would, however, be confined to those who will have to look to their own agricultural activities to provide their livelihood, i.e. planters or farmers. Kizimbani is suitable for providing such a course of instruction and sound practical agricultural training in plantation agriculture and mixed farming, with the necessary theoretical background.

109. The course is one which should properly be combined with the present training scheme for candidates for junior appointments in the Agricultural Department. It might conveniently form the first year of the present three year course, from which selections could be made for continuation to the second and third years.

STAFF.

110. The administration of the programme will be the responsibility of the Director, with the Senior Agricultural Officer as the officer in immediate charge. The Agricultural Officers would undertake the work of the crop development schemes in their districts, together with other parts of the programme as may be convenient and where no other specific provision is made. The major part of the crop and stock development and of the agricultural education proposals does, in fact, constitute the normal duties of the district staff, and it is most advisable to make the greatest use of their accumulated experience. An additional and temporary Agricultural Officer should, however, be employed for five years, and be placed in charge of a small district in the neighbourhood of Zanzibar town, for development of vegetable growing and also to give part-time assistance at Head Office.

111. As it is understood that a soil survey of Zanzibar will form part of a general East African survey, no provision is made in the proposals for the appointment of a Soil Chemist and Ecologist. Any more detailed soil survey required in connection with the programme of crop development will be undertaken by the new Government Chemist, who, it is proposed, should also undertake the routine duties of an Agricultural Soil Chemist.

112. The numbers of Assistant Agricultural Officers and Assistant Veterinary Officers should be increased as speedily as possible. A total complement of eight Assistant Agricultural Officers and four Assistant Veterinary Officers is required. At present there are four Assistant Agricultural Officers on the staff and two in training, and two Assistant Veterinary Officers on the staff and none in training. The programme provides for the additional staff, their housing accommodation in the districts, and travelling and transport expenses.

113. There is an urgent need for periodical and regular visits from an Entomologist to investigate pests on food crops in particular and to advise on the most suitable control measures. Considerable losses are occasioned every year from insect pests on pulses and grain crops. The extensive growing of vegetables is particularly endangered by the ravages of pests. The storage of grains, on a small scale, also, requires early investigation. It is hoped that arrangements may be made, either with the East African Agricultural Research Institute or with one of the neighbouring Departments of Agriculture, for this part-time service.

114. The subjoined statement shows the capital and recurrent expenditure of the various schemes included in the programme and the general estimated increase in recurrent expenditure at the end of the tenth year:

Item No.	Title of Scheme.	Capital Expenditure.	Recurrent Expenditure.	Total Capital and Recurrent Expenditure.
		£	£	£
A.	CROP DEVELOPMENT.			
1.	Survey, Investigation, Demonstration and Development of Crops other than Cloves and Coconuts.			
	(a) Survey ...	990	6,605	7,595
	(b) Experimental Sub-Station, Zanzibar	4,710	9,576	14,286
	(c) Experimental Sub-Station, Pemba ...	2,281	4,534	6,815
	(d) Four Demonstration Plots, Pemba ...	3,684	9,740	13,424
	(e) Demonstration Station for Vegetables (including land reclamation) ...	1,450	3,525	4,975
	(f) Four Demonstration Plots, Zanzibar	3,648	9,740	13,388
	(g) Kizimbani Processing Unit ...	620	940	1,560
2.	Clove Regeneration ...	—	9,800	9,800
3.	Copra Production ...	60	1,085	1,145
4.	Afforestation Survey, Anti-erosion and Utilisation of Semi-wanda Areas ...	2,698	5,191	7,889
C.	STOCK DEVELOPMENT.			
7.	Disease Control ...	5,985	12,393	18,378
8.	Development of Cattle Industry ...	—	2,850	2,850
9.	Pasture Improvement ...	150	980	1,130
D.	EDUCATION.			
10.	Agricultural Training Courses ...	2,820	3,380	6,200
	STAFF. ...	6,609	11,660	18,260
	Totals ...	35,696	91,999	127,695

NOTE—It is estimated that the foregoing programme, at the end of the tenth year, will involve a net increase in annually recurrent expenditure on agricultural services, of £6,000, after setting-off additional revenue expected to accrue therefrom

EDUCATION.

115. The first essential of any programme of educational development is to provide facilities at the primary stage for as many children as possible, before additional facilities for secondary education can be contemplated for the comparatively few who can take advantage of them. In Zanzibar, only some 15% of the children are now receiving any education, apart from religious instruction in the Kuranic schools, and it is, therefore, towards providing secular facilities for the remaining 85%, that our energies must chiefly be turned. It would be financially impossible to provide for all of them within the next ten years, but this programme aims at raising the percentage of children at school from 15 to 40 within this period; that is more than 2½ times as many. If this can be achieved, the goal of universal juvenile literacy, though still a long way off, will be within sight. The mainstay of any efficient system of education is sound teacher training and, therefore, for both men and women, this forms an essential part of the programme. Though the amount of secondary education must necessarily be limited, every effort will be made to increase its efficiency, so that those who show the necessary ability may receive the best possible education to fit them for posts of responsibility within the Protectorate.

116. To meet these needs the programme set out below has been prepared. Briefly it comprises three main features: firstly, a considerable increase in primary education as its main objective; secondly, the establishment of permanent centres for the training of men and women teachers, so that the number of primary teachers will be raised from 150 to 430; thirdly, an improvement in the quality of secondary education without any great increase in its amount, since this cannot be afforded at the present stage. Financially it entails a total net increase in expenditure of £500,000 in the ten years, 1946-1955 (after setting off £20,000 prospective additional educational revenue), above the basic annual figure of £38,850 (1944 actual). Of this sum, approximately £169,000 will be required for capital works, and £331,000 for recurrent expenditure.

117. Against the £500,000 of additional expenditure which will be required, the Secretary of State has promised a grant of £240,000 under the Colonial Development and Welfare Act, which would include provision for all capital expenditure. This gift, however, is made conditional on the acceptance by Government and the Legislative Council of the responsibility for finding the remaining £260,000 of recurrent expenditure from additional revenue. In the tenth year of the programme, the increase in recurrent expenditure will amount to some £43,000, making a total of approximately £82,000 to be spent on education in 1955, as against less than £40,000 in 1944. It is with this background in mind that the following proposals should be read, and with the realisation that many most desirable things have had to be eliminated and economies made, simply in order to bring the scheme within the capacity of the people of the Protectorate to pay for it.

118. In describing certain aspects of the programme, special reference has been made either to boys' or to girls' education. Broadly speaking, however, all remarks apply to both.

Primary Education.

119. The present course of six years will be continued, but with the addition of a pre-standard Kuran class. The necessity for adequate religious teaching, Islamic for the vast majority in this Protectorate, is fully recognised, and for this reason the Kuran class has been added so that children may reap full benefit from both religious and secular education. Adequate religious instruction, where necessary by means of Arabic script, will also be given throughout all standards in accordance with the new syllabus which was drawn up last year. During the next year or two a revision will be made of the whole primary school syllabus, so as not merely to bring it into line with modern practice, but also to ensure that its content will provide as sound a general education as possible, including such important aspects as gardening, handwork and domestic science. In this revision advice will be sought from differing interests, so as to obtain as wide a variety of views as may be available. In brief, the aim will be to give each child as good a general education as possible, so as to fit him for the life he will live. A few will be able to proceed higher, but a thorough education must be ensured, within the seven years, for the very many who cannot.

120. Another development will be the early establishment of local school committees, so as to bring parents and others into the closest possible contact with their local schools. It is of great importance for both parents and teachers to realise that the education of a child is a dual responsibility, both of home and school, and that it is necessary to integrate these two aspects to the highest extent. Furthermore, each school has its own problems and, especially in the case of village schools, they need to be worked out with the fullest local knowledge and help. This is the *sine qua non* of all sound educational policy.

121. It is advisable to get children to school at an early age, at a time when their minds are still in the most formative stage, and early enough to make certain

that those with outstanding ability will not delay the beginning of their education until it is too late for them to complete the full secondary course. At the same time, since the great majority can receive only primary education, it is inadvisable to admit them to school at too early an age, or the result would be that they would finish their primary course when still very young. With this object in view, it will be laid down that no child may be admitted to Government schools or to assisted classes in grant-aided schools, before the age of six. The effect of this will be that, with normal progress, he will complete the primary course when he is thirteen, and, if he were admitted to it, the secondary course when he is nineteen. It should be remembered that this refers to the normal child; but the child of particular ability, who would be the one selected for secondary work, should always be able to receive accelerated promotion, and so complete the secondary course, and be ready for higher education, at a somewhat earlier age.

122. Though such projects as nursery schools are desirable, they cannot be considered at the present stage, when the provision of as much primary education as possible for as many children as possible must be the chief consideration of Government.

123. It will be seen from the financial summary at the end of this section that a sum of £30,000 has been included under capital expenditure for new Government Primary Schools. This will be used both for replacing temporary with permanent buildings in existing schools, and for establishing new schools as soon as a local demand has been proved. Each school will have seven class-rooms, a handwork room, office, teachers' room, store and the necessary ancillary buildings. The normal number of children in a full primary school, without double standards, will be between two hundred and two hundred and fifty, with a staff of seven or eight.

124. The provision of school meals will be continued, but it should be pointed out that the cost of these has risen from £452 in 1941, to an estimated sum of £1,921 in 1946. It will readily be seen that, with a considerable increase in the number of primary schools, the charge against public funds would, at this rate of increase, rapidly become very high, if not excessive. As much as possible of the food, therefore, will be produced in school gardens; and this objective will be advanced by the reorganisation of garden work which is now being undertaken with the advice of the Agricultural Department. Later on, indeed, it will probably be necessary to make a small charge for these meals; provision will, however, always be made for free meals for children who are really poor.

Secondary Education.

125. With the predominating necessity for extending primary education, it is clear that the Protectorate cannot afford any substantial increase in secondary education during the next ten years. The present Government Boys' Secondary School will, therefore, retain its duplicated standard intake, but it cannot be expanded, nor can the establishment of another full secondary school be considered. The Government Girls' Secondary School will be opened to all communities of Zanzibar in the same way as the Boys', and will proceed to the full secondary course, that is as far as standard XII. At first this will be single stream, but later, when demand for entry increases, double stream standards will be introduced. In this connexion it is well to mention that, though the syllabus content may differ, the aim will be to raise the standard of girls' education to the same level as that of boys. At the same time every effort will be made to ensure greater efficiency in both schools. The gradually rising standard of entry to Makerere, where, it must be remembered, women as well as men are now admitted, renders it necessary to make Zanzibar secondary education as efficient as possible. In fact it would be true to say that quality, not quantity is the aim. There will be three Europeans on the staff of the Boys' Secondary School, and four on that of the Girls'. Not all these will be appointed to the permanent establishment, and it should be understood that the object of their appointment is to raise the educational standard of the men and women of this Protectorate, so that from among themselves will be found the future graduates from whom these and other senior appointments will later be made.

126. The Secondary course, which comprises standards VII - XII, is commonly divided into two stages, junior up to standard IX and full secondary; this division is more logical than that now in force in the Protectorate, where the break is made after standard VIII. It is, therefore, proposed that certain schools shall, within the next year or two, be allowed to complete the junior secondary course up to standard IX, and that the entry into Government secondary schools will be to standard X. Existing schools which will be affected are the Rural Middle School at Dole, and certain grant-aided schools including the Sir Euan Smith Madressa. At a later stage it may be expected that this will apply to the Pemba Girls' Boarding School, and to at least one boys' school in that island. The natural corollary of this will be that Government training courses and posts which are now filled from standard VIII, will then be open to candidates from standard IX only. This should considerably increase the

efficiency of the various services, whle inflicting no hardship on the pupils since, on an average, they are considerably younger than those of a few years ago. It must not, however, be thought that entry into standard VII of any school will be automatic. Secondary education should be regarded as a privilege which can only be attained by merit and only after very careful selection. It must always be remembered that secondary education is expensive and that, in present circumstances, the admission to secondary classes of any children who do not possess exceptional ability, will mean the exclusion of a considerably greater number from any form of education at all.

127. The Rural Middle School, Dole, will be expanded to double stream standards VII - IX and, as at present, will provide education above the primary level for boys from rural schools in Zanzibar and Pemba, but will not admit boarders into primary classes. After standard VIII, at present, and IX, later on, the most intelligent boys of suitable age will proceed to the Secondary School, and boarding accommodation and daily transport to the town will be provided for them. Other selected boys will enter various Government departments and training establishments, but it cannot be expected that all, or even a majority, can find salaried employment. For this reason the course will have a strongly rural bias and will include agriculture, care of animals and handicrafts, so that those who are not selected for further education or salaried employment, may be fitted to return to their homes, adequately equipped for village life with its rising standard of living. A sum of £45,000 is included in the estimates of capital expenditure for permanent buildings for both the Rural Middle and the Teachers Training School at Dole. These two will be closely linked together and the staff partly interchangeable. Two Europeans will be posted to the combined school and, at a later stage, a European Craft Instructor will be added. It had been hoped to build a similar school in Pemba, but this project had most reluctantly to be abandoned owing to the great expenditure involved. Care will, however, be taken to ensure that Pemba boys have the full share of places at Dole, to which their number and ability entitle them.

128. The Girls' Boarding School at Wete, Pemba, costing £20,000, will be built as soon as practicable. In the first place it will receive boarders in the lower standards from areas in Pemba where there are at present no girls primary schools, as well as from existing primary schools; at a later stage it will accept them from above standard IV only and still later, as girls primary schools develop, none will be admitted below standard VII or the beginning of the secondary course. At a still later stage it may be found desirable to complete the full secondary course in this school, but, for the present, the upper standards will go as far as standard IX, and girls above that will go to the Secondary School in Zanzibar, where increased hostel accommodation will be provided. The European staff will consist of three, one of whom will have domestic science qualifications.

129. It will be necessary to review the scale of fees in boarding and secondary schools, in order to see whether additional revenue can be raised to assist in meeting these two very costly services. Boarding fees in Government schools are now only Sh. 25/- a term, or little over Sh. 8/- a month, whereas the actual cost of boarding is over Sh. 1/- a day. The result has been that some parents may actually gain by sending their children to a Government boarding school. Every effort will be made compatible with providing an adequate diet and reasonable living conditions, to bring down boarding expenses; and the equipment and service provided will be reduced to a reasonable minimum. It may also be necessary to introduce tuition fees for standards VII and VIII, as is now the case from IX upwards, since secondary education cannot at present be considered as a right, but as a privilege to be paid for. At the same time, the principle will be maintained that no child will be excluded from any form of education on the grounds of poverty, and adequate provision will continue to be made for remission of fees in necessitous cases.

Teacher Training.

130. Primary teacher training for men will be continued at Dole, though in the permanent buildings which are mentioned elsewhere. The course will remain of two years duration ex standard VIII, though entry may, at a later stage, be from standard IX. From 1950, the output will settle at fifteen per annum, before that it will be rather higher so as to cope with the present shortage. The number of fifteen has been fixed as a figure which will allow for a steady expansion of boys primary schools without making the resultant recurrent expenditure rise too steeply. It would be possible to train more; and, if the financial position of the Protectorate were ever to be such as to warrant more rapidly increased education, this could be done. It must, however, be emphasised that the recurrent costs of education are always very high, and that the highest single item is teachers' salaries. In planning for the future, therefore, it is essential to keep a careful eye on recurrent implications.

131. Teacher training is far more efficient if it is residential; where the pupils are day students they lose a great deal of the most valuable part of their training. For this reason it is proposed to build a residential Women's Teacher

Training Centre on a site outside the town at a cost of £12,000. The annual output of teachers will be twenty, five more than the men, because the number of women teachers is still extremely small. The course, as now, will be the same as for men; but it will probably be necessary to introduce an additional lower standard of training, ex standard VI, to cope with the present very great demand for women teachers, and, also, because of the fact that there are still so few girls reaching standard VIII.

132. As has already been mentioned, the Teachers Training Schools will not be filled to capacity and, therefore, it is proposed to offer a number of vacancies to the mainland territories, so that staff and buildings can be utilized to the full. It is felt that, since the courses will include a considerable amount of Islamic teaching, they may be peculiarly fitted to Moslem students from those territories. This step would obviate the criticism that, having regard to the comparatively few teachers being trained, undue expenditure was being incurred on staff and buildings.

133. Men suitable for training as secondary teachers will continue to be sent to Makerere, and it is hoped that it will be possible to send women there also within a very few years. Broadly speaking it is hoped to staff all secondary standards with Makerere trained teachers, with the exception of the higher classes which must be taught by graduates.

Teachers' Salaries.

134. The salaries of primary school teachers in Zanzibar are approximately two and a half times as high as those of teachers with comparable qualifications on the mainland. Hitherto, when the number of children in schools has been comparatively small, this has not meant very great expenditure; but with the considerable increase that must take place in the future, it has been necessary to consider whether Zanzibar can afford to pay so much more for similar services than is paid in the neighbouring territories. If the present high scales of teachers' salaries were retained, the inevitable result would be fewer teachers and, consequently, fewer children at school. This matter has been given the most careful consideration, and it has been decided, very reluctantly, that the only possible course is to introduce a lower scale than the existing one, for primary school teachers who enter the service from the beginning of 1949. The scale will be Sh. 70/- × 5/- – Sh. 130/- × 6/- – Sh. 190/- × 7/50 – Sh. 220/-. The adoption of this scale—which will still remain considerably above mainland scales—will result in an annual saving of some £3,000 by 1955, and a total saving of over £8,000 for the period 1949-55, as against the retention of the existing salary scales. The practical effect will be that over two thousand more children will be at school for the same cost.

135. The new scale will still bring primary teachers up to pensionable status, and there will be an additional non-pensionable allowance of 50/- p.m. for head teachers. Other factors must also be borne in mind in considering the new scale. By 1949, when it will first come into effect, the great majority of teachers will be working near their own homes where their expenses will be lower. Furthermore, a sum of £18,000 is included under capital expenditure for the building of teachers' houses; this will be expended primarily in areas where housing is short, and will be devoted to providing accommodation for those teachers who do have to work away from their homes. Finally it should again be stressed that the new scale does not apply to existing teachers nor to those now in training; nor, of course, does it affect those trained at Makerere.

Technical Education.

136. Government is shortly starting a training centre for ex-servicemen in which the chief trades to be taught will be carpentry and building. This should go far to meet the present shortage of local craftsmen among His Highness's subjects, and it would clearly be inadvisable to embark on any other training scheme until it is known to what extent men trained at the centre will be absorbed in the local market. When they have finished their courses the position in the various trades will be reviewed and, if it is warranted, a small training centre will be started at Dole. Provision has been made for a craft instructor to be attached to that school. It is, however, more probable that the demand will be for men to work in rural areas as carpenters and builders, rather than for more highly skilled craftsmen.

137. With regard to the latter, a start was made in 1944, by sending boys out of the Protectorate to serve their apprenticeship in the Industrial School at Tanga. Both carpenters and tailors are being trained there, and it is proposed to continue this arrangement, so that a small but steady flow of highly trained craftsmen will be forthcoming. Mechanics are sent to Nairobi for training for the Public Works Department, which also trains a few of its own apprentices. If it appears desirable, boys will be sent for training in other trades where opportunity arises. Provision has been made in the estimates for the continuation and, if necessary, the extension of this system.

138. Technical training for girls is dealt with under the various branches of domestic science, of which the chief are needlework and cookery. There does

not at present appear to be a demand for any specialised technical training for girls which would lead to salaried employment, and which could be taught in local schools other than, possibly, the teaching of typing as is done in the Boys Secondary School. Domestic science teaching will, however, be given to all girls from standard V upwards, and provision of £2,000 has been made under capital expenditure for buildings for this purpose.

Higher Education.

139. This stage is confined to post-secondary education, that is after the completion of the full secondary course. There can be no question of introducing any form of higher education exclusively for so small a population as is contained in this Protectorate. It is, therefore, necessary to continue and to extend the system already in existence, whereby suitable candidates can be sent elsewhere. Mention has already been made of the necessity for keeping our secondary schools in close touch with Makerere, by ensuring that there is a sufficiency of candidates up to the standard of entrance to that College. Additional funds have been provided to enable more students to be sent there.

140. Provision has also been made for bursaries to be given to selected candidates for courses to be taken overseas. Such candidates will ordinarily be chosen from among officers already in the service who have proved their worth; at a later stage the satisfactory completion of a course at Makerere will be an essential pre-requisite. The effect of these bursaries will be to ensure that there is a steady stream of candidates from among His Highness's subjects who will, by higher education, both academic and professional, be fitted for senior posts in the service.

141. As has already been announced, provision is also made for an annual bursary of £150 to be awarded to a selected Indian candidate, domiciled in the Protectorate, to study at an University in India.

Adult Education.

142. The cost of evening classes for adults rose from £312 in 1944, to an estimated £1,075 in 1946, when it became obvious that further increase at this rate would impose too great a burden on the public finances. Monthly fees of Sh. 3/- for English, and Sh. 1/- for Swahili, were, therefore, introduced from the beginning of this year. Such classes will continue to be held wherever there is a demand for them and wherever teachers can be made available. Any demand for classes in additional subjects will also be met whenever possible, but the principle of payment must remain.

143. Adult classes for women in various aspects of domestic science, which have already been started, will be continued and their scope enlarged. Furthermore it is hoped, when staff is available, to extend these in a modified form to rural areas.

Grant-Aided Schools.

144. Though much of the foregoing affects all schools in the Protectorate, it is necessary to make special mention of certain matters which apply to grant-aided schools in particular. The grant-aided schools for Africans are small and have their own peculiar problems, and they will be assisted by Government as far as possible within the grant-in-aid regulations. The great majority of grant-aided schools are Indian (which in this connexion includes Goan), and this section refers mainly to them. As has already been announced, the rate of grant has been raised from 33⅓% to 50%, as from the beginning of this year, but no further increase can be contemplated at present. As will be seen, the total of grant-in-aid will have risen from £5,113 in 1944, to £11,500 by 1955, which will be some 14% of the total recurrent expenditure on educational services in the Protectorate. It would manifestly be improper to devote more of the public revenue to schools which, in effect, cater for only some 6% of the population. In this connexion it is necessary to mention that the figure of £10,010 for educational grants-in-aid in the 1946 Estimates, includes a sum of approximately £2,000 for cost of living allowances, which is a temporary addition. It is, however, recognised that some of the communities concerned were pioneers in the field of education and, if only for that reason, they deserve as much support as possible from public funds.

145. Provision is made for recurrent Government contributions to the Provident Fund, and also for bringing the salaries of existing qualified and experienced teachers on to the same scales as are now in force for Government teachers. This also applies to teachers recruited during the next two years, during which time new grant-in-aid regulations with new salary scales based on qualifications will be drawn up. It is also expected that the number of children in some of the schools will increase, so as to include the comparatively small proportion of Indian children who are not yet at school. Of these the majority will be girls.

146. It must, however, be emphasised that no Government assistance can be given for children under six, and that, desirable as they may be, nursery schools cannot be regarded as eligible for a grant-in-aid; the general educational picture of the Protectorate does not at present warrant this type of expenditure. On the other hand, provision has been made for certain schools to proceed to

standard IX, when the Government secondary schools admit external pupils to standard X. At the same time it must be re-iterated that entry into standard VII must be by merit only. Furthermore any projects for special training must come within the nine year period. The amount of money is limited by what can be raised from local revenue, and the foregoing proposals are the maximum which the Protectorate can afford. It should also be added that there are, outside the actual item for grants-in-aid, other forms of contribution from public funds towards Indian education. These include expenditure on the secondary schools which admit children of all races, and also the salaries of the Indian Education Officers whose appointment will, it is hoped, assist greatly in raising the standard of Indian schools. After their arrival, it will be possible to make detailed suggestions for the revision of syllabuses.

147. Training colleges for Indian teachers are projected in Kenya, on an inter-territorial basis, both for men and women, and it is to these that it is necessary to look for the training of the staff of the Indian schools. It is hoped, also, as a temporary measure, to provide local training as soon as the Indian Education Officers arrive. The shortage of staff and other difficulties in grant-aided schools are fully appreciated, and every effort will be made to give assistance where needed.

148. Under capital expenditure there are two grant-in-aid items; namely, £10,000, for the Sir Euan Smith Madressa, and £10,000, for capital assistance in building new schools. Though a greater amount may have been hoped for in both cases, the total of £20,000, out of rather less than £170,000, is again a very fair and adequate proportion. With regard to the Sir Euan Smith Madressa, plans and estimates for the new building are to be drawn up as soon as possible by the Management Committee, and submitted to the Government. When approved the estimated figure will be made known, and the Indian public will be asked by the Committee to subscribe the balance required after deduction of the combined total of the free grant and available funds in hand. Every effort should be made to erect this building at the earliest possible date. The second sum of £10,000, is for assistance to the various communities in building their schools, girls' schools in particular, and an early opportunity will be taken of asking the responsible authorities to submit their plans and estimates, so that a fair apportionment may be made of the available funds.

Conclusion.

149. It will be seen that the framing of an educational programme consistent with the financial capabilities of the Protectorate has been by no means easy; and that it has been necessary throughout to bear in mind what must be the chief aim: namely, to provide as much primary education for as many children as possible, while also preparing the few for posts of higher responsibility. The attainment of the first objective, itself only a stage towards the ultimate goal of universal literacy, has meant the exclusion of many things that would have been most desirable. But if, at the end of the ten years, there are more than two and a half times the number of children at school; and if there are also increasing numbers of His Highness's subjects filling posts of greater responsibility than there were at the beginning, a very considerable and satisfactory advance will have been made.

150. The subjoined statement sets out the financial implications of the educational programme:

Capital Expenditure.

			£
1. New Rural Middle and Teacher Training Schools, Dole	Buildings	£45,000	
	Equipment	£ 2,500	
			47,500
2. Bus for Dole School and two Departmental Lorries			1,200
3. Grant for the Sir Euan Smith Madressa Building			10,000
4. Pemba Girls' Boarding School	Buildings	£20,000	
	Equipment	£ 2,000	
			22,000
5. Reconstruction and Enlargement of Girls' Hostel, Zanzibar ...			1,500
6. Women's Teacher Training School ...	Buildings	£12,000	
	Equipment	£ 1,500	
			13,500
7. New Girls' Secondary School: Zanzibar ...	Buildings	£12,000	
	Equipment	£ 1,000	
			13,000
8. Primary School Buildings and Equipment			30,000
9. Teachers' Houses			18,000
10. Domestic Science Schools			2,000
11. Capital Grants, Grant-aided Schools			10,000
		Total	£158,700

RECURRENT EXPENDITURE.

A. PERSONAL EMOLUMENTS.

	Actual 1944.	Estimated 1955.	Estimated additional for 10 years : 1946 - 1955.
	£	£	£
(a) Overseas Staff ...	5,148	11,840	68,871
(b) Local Teaching and Supervisory Staff, men ...	14,064	27,615	87,566
Local Teaching and Supervisory Staff, women ...	2,595	9,546	33,096
Other Local Staff ...	3,183	4,129	9,275
Total Personal Emoluments ...	24,990	53,130	198,808

(a) i. Includes two Indian Education Officers, but does not include Indian graduate teachers already in the Boys Secondary School.

ii. The total number of new European appointments is 14; of these 6 will be appointed on short term agreements, with the result that the peak expenditure is reached at approximately £14,000, in 1951, decreases to £11,840, by 1955 and will decrease further after that.

(b) Includes provision for the promotion of local officers to higher grades.

B. OTHER CHARGES.

1. Boarding Expenses ...	2,231	4,000	17,920
2. Meals for Day School Children ...	1,225	1,000	16,450
3. School Materials and Stationery ...	915	4,600	25,625
4. Materials for Industrial Schools ...	21	1,000	8,190
5. Transport and Travelling Expenses ...	714	1,000	1,775
6. Rural School Libraries ...	—	100	2,150
7. Maintenance of Farms and Gardens ...	—	1,000	8,000
8. Maintenance and Erection of Temporary School Buildings ...	553	300	1,105
9. Domestic Science Expenses ...	100	650	2,700
10. Repairs and Replacements of Equipment and Furniture ...	131	250	1,990
11. Light and Power ...	79	300	1,870
12. Educational Grants-in-aid ...	5,113	11,500	32,474
13. Expenditure in connexion with Makerere College ...	1,380	4,500	24,480
14. Students in Technical Courses ...	117	400	2,644
15. Students Overseas ...	1,165	1,400	4,191
16. Incidental Expenditure ...	116	250	1,115
Total Other Charges ...	13,860	32,250	152,679
Total Personal Emoluments ...	24,990	53,130	198,808
Total ...	38,850	85,380	351,487
Less Additional Revenue ...	—	3,000	20,187
Total Net Recurrent Expenditure ...	38,850	82,380	331,300

151. The total capital and recurrent cost of the ten year programme of educational development amounts, therefore, to £500,000; and, as has been stated in an earlier paragraph, the additional annual recurrent commitment will amount, at the end of the tenth year, to some £43,000.

HEALTH SERVICES.

152. The comprehensive programme for the expansion of the medical and health services of the Protectorate, which is set out in detail in the succeeding paragraphs of this Sessional Paper, and the estimates of the costs of its component schemes, were framed by the Senior Medical Officer-in-charge, Dr. J. C. St. G. Earl, before his departure from Zanzibar on vacation leave in the United Kingdom, towards the end of 1945.

(i) Construction of New Hospital in Zanzibar Town.

153. The hospital in Zanzibar Town accommodates 118 African, 30 other non-European and 12 maternity cases: a total of 160. The building is out of date and, owing to the straggling nature of its design and the number of small wards, difficult to supervise, uneconomic to run, and unsuitable for conversion into a modern unit. It is proposed to replace it with a well equipped, self-contained hospital containing 200 beds. Of these approximately 125 will be allocated to African, 35 to other non-European and 40 to maternity cases. If the new unit is erected on the site of the present hospital, adequate provision for Europeans already exists in an adjacent building, which will, however, require to be modernised. Should the new unit be sited elsewhere, it will, for administrative convenience, be necessary to provide additional beds for Europeans, and a sum of £3,000 has been earmarked for this contingency. There will be facilities in the new hospital for the teaching and training of staff. The total cost of construction, including the necessary administrative buildings and a large out-patients block, is estimated to be £93,000.

(ii) Construction of Mess for Nursing Sisters.

154. The existing mess, despite the fact that sisters share a common sitting-room, is not large enough to house the whole of the nursing staff. This defect will be remedied in the proposed new building in which each sister will be provided with a bed-room and private sitting-room. The cost of the new mess is estimated to be £8,000. The present mess, when vacated, will be available for conversion into quarters for a senior married officer.

(iii) Construction of Isolation Hospital.

155. The present Isolation hospital is an old building, and the cost of maintenance is becoming excessive. In addition, the Senior Medical Officer-in-charge states that the locality in which it is sited has, during recent years, been increasingly developed for residential purposes, and is no longer suitable for the segregation of infectious disease. The new hospital will comprise eight permanent two-bed wards, and the usual ancillary buildings; i.e., kitchen and store, receiving block and duty room, disinfector and linen store, mortuary, and quarters for the Nurses and the Assistant Medical Officer. Furthermore, in order to meet any emergency which may arise, four concrete plinths will be constructed with roofs upon which it will be possible to erect temporary wards to accommodate twenty-four beds each. The cost of the new hospital is estimated by the Senior Medical Officer-in-charge to be £4,230.

(iv) Construction of Mental Home.

156. The Mental Hospital at Ziwani, which is attached to and administered through the Prison, is unsuitable for the purpose. The proposed new building will provide accommodation and the necessary administrative buildings for some seventy-five patients of both sexes and all races, and, in addition, quarters for a resident Superintendent, and subordinate staff. The post of Superintendent, it is intended, should be occupied by a trained mental nurse, recruited from the Mental Service in the United Kingdom, on a salary scale of £372 × 18 – 480 × 20 – 500. The construction cost of the new unit is estimated to be £10,500.

(v) Additions to Medical Stores.

157. The projected expansion of medical services will necessitate an increased holding of drugs, equipment and other medical supplies, and a sum of £1,000 will be required for alterations and additions to the Medical Store; the control of which will be undertaken by a qualified pharmacist, to be engaged on a salary scale of £372 × 18 – 480 × 20 – 600.

(vi) Construction of New Hospital in Wete Township: Pemba Island.

158. The existing hospital at Wete, which contains fifty-nine beds accommodating fifty African, and five other non-European patients, and four maternity cases, is out-of-date and unsuitable. It is proposed to replace it with a modern hospital of 105 beds, including a block of three beds for Europeans. Seventy beds will be allocated to African, fifteen to other non-European and fifteen to maternity cases. The buildings—which are estimated to cost £40,000—will include an out-patients block (neither so large nor so elaborate as that projected for the Zanzibar Town hospital), all necessary administrative buildings, and, in addition, quarters for subordinate staff.

(vii) Construction of Quarters for the Medical Officer in Wete Township: Pemba Island.

159. A sum of £4,000 is required for quarters for the Medical Officer who will be employed in the proposed new hospital at Wete.

(viii) Alterations to Hospital in Chake Chake Township: Pemba Island.

160. The hospital at Chake Chake, which affords accommodation for forty-three African and six other non-European patients, and four maternity cases, need not be rebuilt, but requires substantial alterations and improvements. When these have been effected, and when the new Wete hospital is in being, beds will be redistributed so as to provide twenty-three for African, ten for other non-European and twenty for maternity patients. The cost of the alterations projected is estimated to be £3,000.

(ix) Construction of twenty-one Rural Dispensaries in Zanzibar and Pemba Islands, and Quarters for twenty-one Sanitary Inspectors.

161. There are, at present, seventeen dispensaries in the Protectorate, distributed as follows:—

Zanzibar Island (Nine)	Pemba Island (Eight)
Mkokotoni	Matangatwani
Selem	Kinazini
Uzini	Mzambarauni
Kizimbani	Ziwani
Mwera	Ole
Chwaka	Mkoani
Tunguu	Kangani
Makunduchi	Kengeja
Kizimkazi	

162. The dispensary buildings are unsuited to current requirements, and it is proposed to replace them with blocks comprising one or two two-bed wards for cases awaiting transport to hospital or for emergencies, and up to six two-bed wards (in accordance with the needs of the locality) for patients who, although they do not call for hospital treatment, require constant attention, and live at such a distance from a dispensary as to render daily attendance impracticable. There will, in addition, be an out-patients section and staff quarters. Four new dispensaries are to be constructed at Kidote on Zanzibar Island, on Tumbatu Island, and at Mtambale and Ukutini on Pemba Island; and the site of the existing dispensary at Mwera will be moved to Koani.

163. It is intended that the dispensaries, one of whose functions will be to act as feeders to the main hospitals, should serve not only for treatment, but also as centres for health propaganda and for rural sanitation measures. These latter services will be carried out by Sanitary Inspectors, one of whom will be attached to each dispensary and will need permanent quarters.

164. The cost of constructing each centre inclusive of quarters for a Sanitary Inspector (£200), is estimated by the Senior Medical Officer-in-charge to be £1,423. Total expenditure under this item will, therefore, amount to £29,883.

(x) Creation of three Rural Health Units.

165. At Chwaka and Makunduchi on Zanzibar Island, and at Mkoani on Pemba Island, it is proposed to convert the rural dispensaries into self-contained health units, by adding to each a small maternity block comprising a maternity ward, an ante-natal clinic, and quarters for midwives. The cost of each such block will be £1,980, save in the case of Mkoani where existing buildings can be made serviceable for a sum of £1,227. The total expenditure involved is, therefore, £5,187.

(xi) Construction of Quarters for six Rural Health Visitors.

166. It is proposed to attach one Health Inspector to a group of three or four rural dispensaries. He will carry out intensive propaganda by means either of lectures or personal contacts in the areas in which he is serving. The cost of quarters for these six officers is estimated to be £1,200.

(xii) Tuberculosis Survey (Two Years).

167. All available evidence indicates a high incidence of tuberculosis in the Zanzibar Protectorate. An investigation was carried out by two Medical Officers in the year 1931, but the time at their disposal was insufficient to permit of any conclusive results. A further investigation into the position is required, more particularly with regard to the incidence of the disease in the over-crowded and insanitary areas of the Zanzibar Stone Town and of Ngambo.

168. The method of conducting such a survey would probably be by the use of a miniature film radiographic apparatus, operated by a team engaged on temporary terms, comprising a medical officer with special knowledge of tuberculosis, on a fixed salary of £1,000 p.a., a radiographer, on a fixed salary of £600 p.a., and a dark-room technician, on a fixed salary of £450 p.a., together with the necessary subordinate staff. The team would require a mobile unit in order that their

investigations might be extended to Pemba Island and the outlying districts of Zanzibar; and it is understood that the Ministry of Health in the United Kingdom already has under consideration the design of a van which would not only provide for the easy loading and unloading of the apparatus itself, but would also contain a dark-room and a generator to supply current. This unit would be necessary in carrying out any scheme which might be undertaken after the completion of the survey, and would be of value in the examination of school children.

169. Not only would the survey provide information on the basis of which it would be possible to assess the true position with regard to tuberculosis, and to frame counter measures; it should also produce valuable data with regard to the general conditions of hygiene and nutrition which affect the population as a whole, which might provide an indication of the directions to be taken by preventive medicine, and thereby establish a solid foundation on which to build an efficient health service.

170. It is anticipated that the period occupied in the conduct of the investigation and the preparation of the report should not exceed two years, and it is estimated that the total cost of the survey, including the mobile unit, would be £12,400. No major capital expenditure would be incurred, and no continuing liability involved.

(xiii) Anti-Malaria Survey (Two years)).

171. Although it is almost certain that a scheme completely to eliminate mosquito breeding in the Protectorate, would, even if possible, involve capital and annual recurrent expenditure of such a size as to render it impracticable, it is of importance that an anti-malaria survey should be carried out, in view of the prevalence of this disease and its crippling effect on health and efficiency. Only on the basis of such a survey can effective proposals be framed to combat this and other mosquito borne diseases in, at least, the larger centres. Furthermore, the measures taken to reduce mosquito breeding are calculated to affect the incidence of bilharzia, and could be associated with the reclamation of land for agricultural purposes.

172. The survey would be carried out by an Engineer, on a fixed salary of £1,000, and an Entomologist, on a fixed salary of £840, both engaged on temporary agreements, together with the requisite subordinate staff. It would be unnecessary to employ a Medical Officer as a full time member of the team, since, provided that the medical establishment of the Protectorate had by then been restored to normal strength, it should be possible to arrange for any necessary clinical investigations to be carried out locally.

The period occupied in carrying out the survey and preparing the report is not expected to exceed two years, and the total cost is estimated to be £5,600. No capital expenditure would be incurred, and no continuing liability involved.

(xiv) Expansion of School Medical and Dental Services.

173. The maintenance of an efficient school medical and dental service is a most important aspect of preventive medicine; and it has been forcibly represented that these services which, at present, attach only to schools which are under Government control, should be extended to grant-aided schools. The existing material of the Medical Department is already being strained to the utmost, and no new services can be undertaken without an increase of staff. In this connection, it must also be borne in mind that the educational programme of development will add considerably to present commitments, in respect of medical and dental care of school children.

174. It is proposed to recruit to the permanent establishment an additional Medical Officer on the scale £600: $600 \times 30 - 840 \times 40 - 1{,}000$; and a second Assistant Dental Surgeon on the scale £225 × £9 – £270; and to inaugurate a travelling dental unit. These new services involve no capital expenditure. The recurrent cost, over the ten year period of the programme, is estimated to be £12,000. The annual additional recurrent commitment, at the end of the tenth year, will amount to approximately £1,200.

(xv) Training of local Hospital Attendants, Nurses and Health Visitors.

175. A free grant of £2,814 has already been approved under the Colonial Development and Welfare Act (Scheme No. D. 369) to enable medical staff recruited in the Protectorate, to be trained as nurses and hospital attendants and as health visitors. It was intended that this scheme should be inaugurated in 1945, but, owing to difficulties of recruitment of the necessary staff, no progress has as yet been made. It is, therefore, necessary to incorporate this scheme into the comprehensive ten-year development plan of the Department.

176. The provision of well trained nurses in considerable numbers is essential to the success of any programme for the improvement and expansion of hospital facilities. Welfare work is a necessary adjunct to such a programme, and the need for it amongst women and girls in both urban and rural areas is urgent. This service can, however, only be initiated when qualified local personnel is available.

177. The scheme provides for the employment of a nursing sister for a period of six years, and a health sister for a period of three years. As has already been mentioned, the approved grant amounted to £2,814. It is, however, now considered necessary to earmark a sum of £3,000 for this service in view of certain salary modifications which have been introduced since the original estimate was framed. No capital expenditure will be incurred in respect of this item, and no continuing liability is involved.

Financial Implications.

178. Over and above the capital outlay already set out in detail, schemes (i) to (xi) inclusive will involve a very substantial increase in annual recurrent expenditure on staff, stores, maintenance and the like, over that actually incurred in 1944; and, in so far as incremental salaries are concerned, an annually increasing liability after the completion of the ten year programme. As regards personnel, the only additions at present contemplated to the permanent establishment of officers recruited overseas, are the posts of one Medical Officer, required in connection with the expansion of school medical services, a Superintendent for the Mental Hospital and a Pharmacist. As the various development schemes are brought into operation there will, however, be a very substantial increase in the cadre of locally recruited staff; since the new hospitals, health units and dispensaries will require additional nurses and attendants, midwives, sanitary inspectors, ambulance drivers, cooks and menial staff. There will also be greatly increased expenditure in respect of "Other Charges", mainly on account of drugs, general stores, equipment and food. Since the introduction of the several schemes included in the programme will be staggered over a period of ten years, this increase in recurrent expenditure will be progressive, and its full impact will not be felt until the tenth year.

179. At the present stage it is not possible to forecast the date by which each scheme will have been brought into operation, and any close estimate of recurrent expenditure is out of the question. Assuming, however,—and this is by no means certain—that the whole programme is in being by the end of the year 1955, it is estimated that the aggregate additional recurrent expenditure incurred on medical services during the programme period, will amount to a maximum of £140,000. This figure includes the respective sums of £12,400, £5,600, £12,000 and £3,000 shewn under items (xii) to (xv) inclusive, and approximately £10,000 on account of ward equipment and special equipment, such as sterilizers and X-ray, for the new hospitals.

180. A summary of the financial implications, both capital and recurrent, of the ten year development programme of medical and health services, is subjoined:—

Scheme.	Capital Cost.	Recurrent Cost.
	£	£
(i) Construction of new Hospital in Zanzibar Town...	93,000	
(ii) Construction of Mess for Nursing Sisters ...	8,000	
(iii) Construction of new Isolation Hospital ...	4,230	
(iv) Construction of new Mental Hospital ...	10,500	
(v) Additions to Medical Stores ...	1,000	
(vi) Construction of new Hospital in Wete Township: Pemba Island ...	40,000	
(vii) Construction of Quarters for Medical Officer in Wete Township: Pemba Island ...	4,000	107,000
(viii) Alterations to Hospital in Chake Chake Township: Pemba Island ...	3,000	
(ix) Construction of twenty-one Rural Dispensaries in Zanzibar and Pemba Islands and Quarters for twenty-one Sanitary Inspectors ...	29,883	
(x) Creation of three Rural Health Units ...	5,187	
(xi) Quarters for six Rural Health Visitors ...	1,200	
(xii) Tuberculosis Survey ...		12,400
(xiii) Anti-Malaria Survey ...		5,600
(xiv) Expansion of School Medical and Dental Services		12,000
(xv) Training of local Hospital Attendants, Nurses and Health Visitors ...		3,000
Total ...	200,000	140,000

181. The total capital and recurrent cost of the ten year programme of medical development amounts, therefore, to £340,000. It is estimated that the additional annual recurrent commitment, including the sum of £1,200 already mentioned in connection with item (xiv), expansion of school medical and dental services, will amount, at the end of the tenth year, to not more than £18,000.

TOWN IMPROVEMENT.

(a) Housing.

182. During the first twenty years of the century town improvement was mainly confined to the great task of reclaiming large areas in and around the town for recreation purposes. This work was carried out under the inspiration of Mr. John Sinclair, C.M.G., and has provided Zanzibar with admirable playing fields and open spaces at small cost, the filling being mainly composed of town rubbish. This process still continues. Little town planning proper, however, was done, with the exception of a small scheme in the Vuga area; and the major problem of improving slum conditions was not seriously tackled until 1923. In that year a visit was paid by Mr. (now Dr.) H. V. Lanchester, a town planning expert of established reputation both in Great Britain and the East, and a report of his investigations was subsequently published which set out the broad outlines upon which, in his view, the development of Zanzibar town might proceed. Shortly before the war, Mr. Bintley, the Government Architect, made recommendations, based on Dr. Lanchester's report, regarding the town planning of the roads of access in the large slum area in Ngambo. Further progress was interrupted by the outbreak of war, but in 1943, a topographical folder was prepared incorporating Mr. Bintley's suggestions in a comprehensive plan.

183. In that year, also, the Town Planning Board was reorganised, and at once started to work on the problem of town planning as a whole in Zanzibar and Pemba, and particularly in the congested Ngambo area. It was necessary in the first place to clear the ground by producing suitable building rules in native locations for both islands, and also to get on to the Statute Book a new Town Planning Decree. These preliminaries were accomplished late in 1944. At this stage, the one piece of town-planning deemed necessary in the Stone Town of Zanzibar (with the exception of the drainage scheme referred to elsewhere in this Paper) was taken in hand. It comprised the restoration of part of the Fort, so that the grounds and rooms might be used for recreational and cultural purposes by purdah ladies (this was financed from a free grant under the Colonial Development and Welfare Act), and the extension of the Jubilee Gardens in front of the Fort, by the demolition of several godowns, at the charge of the local Government.

184. Side by side with these activities the Town Planning Board devoted themselves to the preparation of their scheme for slum clearance. There were considerable difficulties to be overcome, such as the design of a house to conform to popular ideas and at the same time to conform with health requirements, compensation for dispossession, the size of plots, and many other problems which affected the plan. Two main considerations soon became clear, however; the first, the necessity for the actual building of a satisfactory native house at a figure which could be economically met not only by the scheme, but also by the native inhabitants themselves; and the second, the necessity for the building of a reception area to house dispossessed persons before any actual town-planning could take place. A scheme was prepared in outline, and sample designs of houses and layouts were forwarded to the Secretary of State. The latter agreed in principle to the proposals, and acknowledged them to be suitable subjects for assistance under the Colonial Development and Welfare Act; he added, however, that before being prepared to give an assurance of such assistance he would like to receive a scheme worked out in fuller detail with more precise estimates of costs. The detailed scheme was prepared, and forwarded to the Secretary of State on the 28th February, 1945. Discussions were held in London with the Chairman of the Town Planning Board, during his presence there on leave, and in August of that year the Secretary of State approved the proposals. At the same time he pointed out that, although the scheme put forward had been framed on a twenty year basis, it was only possible for him, at that stage, to approve a ten year programme.

185. The items of expenditure included under the twenty year scheme, which was estimated to cost £338,000, in all, were as follows:—

	£
1. Acquisition of 240 acres of land	90,102
2. Constructios of 200 "complete" reception houses	26,000
3. Construction of 1,329 "utility" 3-room houses	99,675
4. Construction of 1,329 "utility" 2-room houses	79,740
5. Payment of compensation in cases where the value of the house demolished exceeded that of the new house	68
6. Extension of electricity supply	15,000
7. Provision of storm-water drainage	15,000
8. Improvement of roads	7,000
9. Salary of Engineer for 10 years on the scale of £450 for 2 years— £475 × £25 – £680 × £30 – £840	5,415
Total ...	£338,000

Against this expenditure it was estimated that a sum of £3,180 would accrue from ground-rents for houses on the land acquired, and a further £7,300 in earnings from the electricity supply extension: a total of £10,480.

186. Having regard to the reduction of the period of the scheme from twenty to ten years, the Secretary of State intimated that the total expenditure he was prepared to consider was £273,000. The Secretary of State also informed the British Resident that Sir Frank Stockdale had proposed the subjoined methods of financing this scheme, and that he endorsed them:

AMOUNT TO QUALIFY FOR FREE GRANT FROM COLONIAL DEVELOPMENT AND WELFARE ACT.	£
Construction of utility houses	45,000
Construction of reception houses	13,000
Scheme for exceptionally bad areas	12,500
Provision of storm-water drainage	15,000
Improvement of roads	7,000
Salary of Engineer for ten years	5,415
Free grant of interest on loan of £105,000 for five years, approximately	16,000
Total	£113,915
Say	£114,000

AMOUNT TO BE MET FROM ZANZIBAR FUNDS.	£
Cost of utility houses	45,000
Cost of reception houses	13,000
Scheme for exceptionally bad areas	12,500
Total	£70,500
Say	£70,000

AMOUNT TO BE FINANCED BY LOAN.	£
Acquisition of land	90,102
Extension of electricity supply	15,000
Total	£105,102
Say	£105,000
Total	£289,000

187. At the same time, the Secretary of State made it clear that no final conclusion could be reached on these proposals, until they could be viewed in relation to the total amount of assistance likely to be available to the Zanzibar Government under the Colonial Development and Welfare Act. Finally the British Resident was requested to state whether he agreed in principle to the financing of the scheme on the basis suggested; and, in the meantime, in order that progress on the work should not be delayed, a free grant of £10,000 was approved. In December, 1945, the Acting British Resident telegraphed his agreement.

188. On the 20th February, 1946, this Government received the final conclusions of the Secretary of State, which are reproduced in the Appendix to this Sessional Paper. From this it will be seen that, as it had been found necessary to cut both the education and health sections of the ten year programme, some cut had, also, to be made in the reconstruction and replanning of the Ngambo area. This saving was to be effected by slightly slowing down the rate of construction of new houses, and the sum of £90,000 originally allocated for the purposes was reduced to £70,000. Allowing for an expenditure of £4,000 during the current financial year 1945/46, out of the preliminary grant of £10,000 already made, the total expenditure on the scheme contemplated during the ten year period beginning in April, 1946, is £265,000. This expenditure, in accordance with the suggestions already accepted and with the modification referred to above, will now be financed by a free grant of £100,000 from the Colonial Development and Welfare Vote, and allocations of £105,000 from loan and £60,000 from revenue.

(b) Drainage and Sanitation Scheme for Zanzibar Stone Town and Ngambo.

189. During the latter part of 1945, Mr. Hugh Dixon, representative of Messrs. Howard Humphreys and Sons, London, Consulting Engineers, visited Zanzibar, to frame a comprehensive scheme for the sanitation of the Zanzibar Town areas, on the basis of the following terms of reference:—

"To examine and report upon the existing sanitation and surface water drainage of Zanzibar Stone Town and Ngambo, that is to say the area within the limits of the Township Boundary and to report on the comprehensive measures

necessary to deal adequately with sewerage, sewage disposal and surface water drainage in the area specified heretofore, to permit of the formulation of a long term policy which can be put into effect by stages, with particular reference to:—

(a) the sewerage of that part of the Stone Town and Ngambo which at present finds its natural outfall into the Darajani Creek and Canal and the provision of an outfall which will discharge without nuisance;

(b) the sewerage of the remaining area of the Stone Town and the provision of outfall or outfalls which will discharge without nuisance and which will supersede the many existing outfalls;

(c) the sewerage of Ziwani area of Ngambo and the provision of a suitable outfall;

(d) the amelioration of flood nuisance by the improvement of storm water drainage in the Stone Town exclusive of hat area which drains to Darajani Creek and Canal; and

(e) the measures needed for the adequate surface water drainage of Ngambo having regard to the reconstruction proposals.

190. After completing his local investigations, Mr. Hugh Dixon returned to the United Kingdom, where he is in course of preparing his report. Pending examination of this report it is not possible to estimate the cost of the projected scheme with any degree of accuracy; and, as indicated in paragraph 4 (b) of the Appendix to this Sessional Paper, it may be necessary, at a later stage, to augment the provision of £45,000, which has been tentatively included for this purpose under the ten-year programme. It is proposed that the cost of this capital work should, ultimately, constitute a charge against loan funds. The scheme will be revenue earning, and no net continuing liability is, therefore, anticipated.

UNCOMPLETED SCHEMES ALREADY APPROVED FOR ASSISTANCE UNDER THE COLONIAL DEVELOPMENT AND WELFARE ACT, AND NOT INCLUDED IN DEPARTMENTAL PROGRAMMES.

191. The undermentioned schemes, which have already been approved for assistance under the Colonial Development and Welfare Act, are to be incorporated into the ten year programme and provision has been made thereunder for their completion.

(i) Scheme No. R. 33. Survey of Cattle Diseases in Zanzibar and Pemba.

192. A free grant of £3,925 was authorised in 1945, to meet the cost of a survey of the whole field of cattle diseases throughout the Protectorate; and especially of tick-borne complaints, and of trypanosomiasis. The original proposal was for a two year programme, which was subsequently reduced to one year, with an option to apply for a further grant to extend the period by a maximum of twelve months. The survey includes an examination of stock for the existence of bovine pleuro-pneumonia, tuberculosis and contagious abortion; and is being carried out under the supervision of officers seconded, from time to time, from the Veterinary Services Department of the Tanganyika Territory. The objects of the survey are to improve the standard and value of animals and animal products, and to increase the cattle population. Preliminary visits to Zanzibar and Pemba have already been paid by a Veterinary Officer from the Tanganyika Territory; and these visits have resulted in the discovery of the vector (Glossina austeni) which can now almost certainly be considered to have been the cause of transmitting trypanosomiasis to cattle during past years. The cost of completing the Scheme, as from the 1st of April, 1946, is estimated to be £3,384. No capital expenditure is to be incurred and no continuing liability is involved.

(ii) Scheme No. D. 331. Construction of Civic Centre in Zanzibar Town.

193. A free grant of £23,000 was approved in 1944, as a contribution towards the cost of creating a civic centre in the native town of Zanzibar. The design provides for a Central Hall, embodying men's and women's reading rooms, a small theatre, etc, a health centre for women and children, a coffee house and a recreation park, with playgrounds for children. The main objects of the scheme are to promote the social and hygienic welfare of the local residents, to open up an overcrowded area, and to provide a suitable venue for local government activities in the native town of Ngambo. The site has been acquired, cleared and laid out; the buildings have been designed, and work will start on them in the near future. It is estimated that the cost of completing that portion of the scheme to which the free grant applies, will, as from the 1st of April, 1946, be £14,294. No recurrent expenditure is to be incurred, and the continuing recurrent liability for supervision, and for menial staff and maintenance will be charged against the Provincial Administration head of expenditure.

(iii) Scheme No. D. 336. Development of Secondary Roads in Pemba.

194. In 1944, a free grant of £20,000 was approved to finance the seven-year plan for the development of a secondary road system in the island of Pemba, by means of branch roads leading off the existing hard-surfaced main road. The

object of the scheme is to bring extensive agricultural areas, which are at present isolated during the rainy season, within easy reach of all weather roads, and to accelerate and cheapen the transport of agricultural produce. The capital cost of completing the scheme, as from the 1st of April, 1946, is estimated to be £19,500. The continuing recurrent liability for upkeep, after the completion of the scheme, will be charged against the annual vote for the maintenance of roads and bridges.

(iv) Scheme No. D. 448. Improvement of Rural Water Supplies.

195. A free grant of £5,500 was authorised in 1944, for the improvement of water supplies in rural areas. Work under the scheme consists in discovering and exploiting new sources of supply, and in improving existing wells. The cost of completing the programme, as from the 1st of April, 1946, is estimated to be £4,822. The scheme involves capital expenditure only and no recurrent liability is involved.

196. The financial implications of the foregoing schemes, in connection with the ten-year development programme, are as follows:—

Scheme No.	Title.	Cost of completion as from 1st April, 1946.
		£
R. 33	Survey of Cattle Diseases in Zanzibar and Pemba...	3,384
D. 331	Construction of Civic Centre in Zanzibar Town ...	14,294
D. 336	Development of Secondary Roads in Pemba ...	19,500
D. 448	Improvement of Rural Water Supplies ...	4,822
	Total ...	42,000

Welfare Services.

197. In framing the ten-year plan, the need for adequate social welfare services was not over-looked. No specific allocation has, however, been made within the frame-work of the programme, since a Welfare Unit has already been inaugurated as a charge against Protectorate revenues. The unit comprises one male and one female European officer and local welfare officers, together with the requisite subordinate staff. These officers have been included within the organization of the Provincial Administration and will work under the guidance of the Provincial Commissioner, in close liaison with the departments of Agriculture, Education and Medical services. They will be entrusted with the task of co-ordinating all social welfare activities in the Protectorate, through the media of clubs, games associations, etc. and, above all, personal contacts.

198. The financial implications of the ten year development programme are summarised in the subjoined statement:—

Title of Component. Services.*	Capital.	Recurrent.	Total.	Estimate of annual cost at end of tenth-year.
	£	£	£	£
Agriculture ...	35,000	92,000	127,000	6,000
Education ...	169,000	331,000	500,000	43,000
Health Services ...	200,000	140,000	340,000	18,000
Town Improvement:				
(a) Housing ...	265,000	...	265,000	...
(b) Drainage and Sanitation Scheme for Zanzibar Stone Town and Ngambo ...	45,000	...	45,000	...
Survey of Cattle Diseases in Zanzibar and Pemba ...	...	3,384	3,384	...
Construction of Civic Centre in Zanzibar Town ...	14,294	...	14,294	...
Development of Secondary Roads in Pemba ...	19,500	...	19,500	...
Improvement of Rural Water Supplies ...	4,822	...	4,822	...
Total ...	752,616	566,384	1,319,000	67,000

*For details of these programmes see paragraphs 10 to 196.

199. To the total of £1,319,000 shewn at the foot of the fourth column must be added a sum of £141,000, constituting a reserve for further economic projects, the purpose of which is explained in paragraph 11 of the Appendix.

200. With the above-mentioned addition the total cost of the ten-year development programme is raised to 1,460,000. To meet this expenditure, £750,000 has been made available, by way of a free grant, under the Colonial Development and Welfare Act, and, of the balance of £710,000 it is intended that £250,000 should ultimately be chargeable against loan funds, £120,000 against the existing surplus balances of the Protectorate, and £340,000 against its future revenues. The proposed method of distributing this provision over the various services included in the programme, is set out in paragraph 16 of the Appendix.

201. To meet the share of expenditure under the ten-year programme to be financed from local sources, and to ensure that the Protectorate is in a position to discharge the additional annual liability over the 1944 level, which will be created by the programme (estimated to amount to approximately £67,000 at the end of the tenth-year), it is necessary that extra annual revenue of from £60,000 to £70,000, should be made available by increased taxation. Possible methods of providing this sum are discussed in paragraphs 18 and 19 of the Appendix.

202. It will be seen from paragraphs 13, 14 and 15 of the Appendix, that the carrying out of the programme of educational development is dependent upon the agreement of the Legislative Council of Zanzibar to produce the additional revenue required, and, with this object in view, a Motion will be moved, during the next Session of Council, to adopt the proposals embodied in this Sessional Paper with their financial implications.

APPENDIX.

Statement of Views Communicated by the Secretary of State on the Ten Year Development Programme Prepared in Zanzibar.

During January my Adviser on Development Planning and others of my advisers held a series of discussions with the Financial Secretary of Zanzibar, and also with the Director of Education and the Senior Medical Officer, regarding Zanzibar's comprehensive ten-year development programme and as a result I am now in a position to communicate to you my conclusions on this programme. That this has been possible is due to the detailed preparatory work carried out in Zanzibar over a period of three years and I wish to take this opportunity of expressing my appreciation of the contributions made to the working out of the programme by the many officers who have been concerned. In particular I would like to pay a tribute to the part played in this preparatory work by Sir Guy Pilling, the late British Resident. In the final discussions on the programme which took place last month the presence of Mr. Baker-Beall, Mr. Harvey and Dr. Earl has been most useful and I am very glad that these discussions have taken place and that we are now in a position to determine the ten-year programme, subject to such modifications as world events or events in Zanzibar during the next ten years may make it necessary to agree upon.

2. Before dealing with the broad points of policy arising in connection with the programme as a whole I will record briefly in the following paragraphs my conclusions on the individual sections of it.

3. Agriculture. I recognise the careful thought which has been given to the working out of this section of the programme by Mr. R. M. Davies as Acting Director of Agriculture and by the present Director, Mr. R. O. Williams. I regard the plan in its final form as a sound one and I agree with the view which you and your advisers have expressed that it should have priority in the allocation of funds. I propose to seek Treasury concurrence in a grant* of £127,000 from the Colonial Development and Welfare Vote to finance the whole of the programme. The clove research scheme estimated to cost £51,000 is being dealt with separately and as a result of discussions during Mr. Baker-Beall's visit a memorandum has been laid before the Colonial Agricultural Research Committee and will be considered at its next meeting. I will communicate with you further in the light of the Committee's views.

4. Town Improvement.

(a) *Rebuilding of Zanzibar Native Town.* You have accepted *in toto* the proposals for financing this scheme put forward by Sir Frank Stockdale and endorsed by me. I recognise the amount of careful planning which has gone to the preparation of this scheme and I should have liked to have seen it included in full in the comprehensive development plan. As, however, it is necessary to cut both the education and health sections of the programme, I feel that some cut should also be made in this scheme and I consider that this should be achieved by slightly slowing down the rate of construction of new houses. £90,000 is at present allocated for this purpose in the scheme during the ten year period and I consider that this should be reduced to £70,000. I trust that you will agree. Allowing for the expenditure of £4,000 on the scheme during the current financial year 1945/46 from the preliminary grant of £10,000 already made under the Colonial Development and Welfare Act, the total cost of the scheme during the ten year period beginning next April will then be £265,000, which, in accordance with the suggestions already accepted and with the modification referred to above, will be financed by a grant of £100,000 from the Colonial Development and Welfare Vote with allocations of £105,000 from loan and £60,000 from revenue. I will seek Treasury concurrence in a grant from the Colonial Development and Welfare Vote on this basis.

(b) *Drainage.* A sum of £45,000 has been included in the comprehensive programme for this purpose and I consider that this should be met from loan funds. Dr. Earl has expressed the view that this amount may not be sufficient for the improved sewerage disposal scheme when combined with the reclamation of the area between Hollis and Darajani Bridges. Mr. Baker-Beall on the other hand has suggested that the cost of this reclamation could be materially reduced by carrying it out gradually with spoil obtained from demolished houses and other town refuse in the course of the native town construction scheme. In the circumstances I think that the proper course is for me to approve the allocation of £45,000 for this scheme, as an ultimate charge against loan funds, on the understanding that it may be necessary to give consideration at a later stage to the possibility of providing further funds for the scheme if they prove to be required. I therefore approve the allocation of £45,000 on this basis.

5. Health. The cost of this part of the programme, as put forward at the beginning of the recent discussions, was £402,000, of which £212,000 was for capital expenditure and £190,000 for recurrent expenditure. The major part of

*Since approved as Scheme No. D. 647.

the capital expenditure was required for the construction of new hospitals in Zanzibar and Pemba, which, from Dr. Earl's description of the state of the existing hospitals, is clearly necessary. My Medical Adviser has, however, pointed out that the estimated cost of the construction of the hospitals per bed is substantially too low, a view which is shared by Mr. Baker-Beall. It has accordingly been agreed, with the concurrence of Dr. Earl, that, while leaving the estimates for the cost of the two hospitals as they stand at present, subject to one small reduction to which reference will be made below, the number of beds to be provided should be reduced from 300 to 200 in the case of the Zanzibar Hospital and from 153 to 103 in the case of the Pemba Hospital. The effect of this will be substantially to reduce the running costs of the hospitals and as a result of the discussions Dr. Earl has agreed that the total recurrent cost of the medical programme during the ten year period may safely be reduced from £190,000 to £140,000, with a total additional recurrent commitment over the 1944 figure at the end of the ten year period of £18,000 per annum. He is satisfied that this will in no way affect the health part of the programme, to which he rightly attaches particular importance. In this view of the importance of the health part of the programme he is fully supported by my Medical Adviser. In addition on the capital side Dr. Earl has suggested certain further savings, by eliminating the provision for ten European beds in the new hospital at Zanzibar, on the ground that there is already a satisfactory European hospital, and by reducing the cost of construction of the dispensaries and aid posts to be provided under the programme. The effect of these savings will be to reduce the capital cost of the programme to £200,000 and the whole programme will thus cost £340,000. I regard this as a reasonable figure and I am prepared to approve the programme on this basis. I am seeking Treasury agreement for a grant of £150,000 from the Colonial Development and Welfare Vote towards the capital expenditure, on the understanding that £50,000 will be borne from loan funds and that the total recurrent cost of the programme, £140,000, will be met from revenue or surplus balances.

6. EDUCATION. The education programme originally put forward by Mr. Harvey would have cost £800,000 during the ten year period and Sir Guy Pilling made it clear that he considered this programme too ambitious and too expensive. I shared this view and informed Sir Guy Pilling accordingly. As a result Mr. Harvey considered the programme further and proposed reductions bringing the total cost down to £566,000 during the ten year period. The principal means by which this cut was effected were a reduction of 50% in the rate of teacher training and a reduction in the salaries of primary school teachers as from 1949. The broad effect of these modifications of Mr. Harvey's programme was to revert to the scheme prepared by his predecessors, Mr. R. S. Foster and Mr. P. E. W. Williams, with increased capital expenditure to allow for increased building costs and with certain additions designed to make the previous proposals comprehensive. It was on the basis of this figure of £566,000 that the recent discussions with Mr. Harvey started. As a result of the discussions Mr. Harvey has agreed to further reductions in the cost of the scheme. The total saving is £47,000 recurrent over the ten year period and £19,000 capital, reducing the whole cost of the plan to £500,000.

7. I have the following comments to make on the plan as it now stands from the education point of view. The proposal to reduce the salaries of primary school teachers has required careful examination. These salaries, like the salaries of other Government officials, are substantially above the general level of the annual income of the mass of the population in Zanzibar and they are also much higher than corresponding salaries on the mainland of Tanganyika. Mr. Harvey has pointed out that it is impossible to envisage any large degree of educational expansion unless this measure can be accepted. He believes that this will be understood locally and he does not consider that the limited reduction of salaries which is proposed would affect the intake or quality of teachers in the future. In view of this explanation my Education Adviser has accepted the necessity of the proposed reduction in salary of primary teachers and I also accept it.

8. The effect of the further cut in the rate of output of teachers now agreed to by Mr. Harvey will be to reduce the number of teachers, excluding Kuranic teachers, at the end of the ten year period from 500 (as provided for under the £566,000 scheme) to 430, against 150 at present, and to reduce the proportion of children of school age receiving education at the end of the period from approximately 46% to approximately 40% as against 15% at present. I am satisfied that for financial reasons this reduction is necessary, but the effect will be to raise the overhead cost per teacher of the teacher training establishments. On this ground and also on the ground of efficiency I think it very desirable that serious consideration should be given to the possibility of arranging for the Kenya and Tanganyika Governments to send pupils from the coast areas to the Zanzibar training institutions. The general policy of concentrating teacher training facilities has recently been strongly recommended by my Advisory Committee on Education and I fully agree with their view. If the Kenya and Tanganyika Governments agree, it will be necessary to arrange for the two Governments

to pay annual fees to the Zanzibar Government in respect of each pupil, which would be assessed on the basis of the costs of boarding, teaching, etc; provision for overheads being included. Alternatively they might pay an overall fee covering the whole cost of the training of each teacher. The financial effect would be approximately the same and I must leave it to local discussion to decide the basis of assessing the contribution. There is no need for the implementing of the teacher training scheme in Zanzibar or the construction of the new buildings to be held up pending a decision whether the Kenya and Tanganyika Governments will participate, but, if they decide to do so, there will be some saving on the total cost of the Zanzibar education programme. I consider that any such saving should be devoted to the provision of scholarships for the higher training of local teachers to replace the European staff now to be provided for teacher training. I feel that the aim should if possible be to replace 50% of these European teachers by local inhabitants at the end of the ten year period and I suggest that the general policy of replacing European by local teachers should be announced when the development programme is made public in Zanzibar.

9. Another point which will in due course have to be considered is the further progress to be made with the development of education after the end of the ten year period. This cannot be usefully discussed at present and will have to be examined in the light of the general financial situation towards he end of the period. The only point which I wish to make now is that it will probably be necessary for the Zanzibar Government, like other African Governments, to have recourse eventually to the dilution of trained teachers by pupil teachers—a policy which has already been accepted in the West Indies. Such dilution is not possible under present conditions in Zanzibar, but the problem is one which is bound to have to be faced at some future date.

10. Subject to the above points, I accept the programme as it now stands as sound from the educational point of view. Its financial implications are serious and before discussing these I wish to make a general observation on the comprehensive development programme.

11. It cannot be denied that the programme is heavily weighted on the side of the social services, the majority of the available funds being required for education, health and town improvement. Admittedly the town improvement schemes have a substantial economic element in that they will produce increased revenue and indeed both education and public health have their economic value; but none the less the balance of the whole programme is definitely not towards economic development as usually understood. I recognise that this is due to the special circumstances of Zanzibar, which render the problems of development different from those of other Territories. The possibilities of economic development are limited and on the other hand Zanzibar, with its large urban concentration, requires greatly improved social services if the population is to be encouraged to a more energetic attitude towards local affairs. I recognise at the same time that careful thought was given to the economic possibiliies in the preparation of the programme of development submitted by Sir Guy Pilling in his despatch No. 29 of the 8th July, 1943, and that the comments on this programme made by my predecessor have been taken into account by Mr. Davies and Mr. Williams in the preparation of the agricultural development scheme. I appreciate finally that, although the various projects which make up the scheme are inexpensive in themselves, yet they cover a wide field of economic development between them. While, however, as I have already stated, I consider the agricultural scheme to be well-conceived and sound, I cannot regard it as representing the last word on economic development in Zanzibar. Zanzibar depends at present to too large an extent on the clove industry and if its development is to be sustained over a long period it is essential that no opportunity of increasing its basic resources should be lost. I would urge also that the building up of those resources and the possibility of new economic developments should continue to be a major preoccupation of the administration as a whole, not only of special expert advisers. For these reasons I feel that it will be wise and indeed essential for part of the available funds to be set aside for the time being as a reserve to be drawn upon to finance any economic schemes which may be put forward in future. I consider that this reserve should be of the order of £150,000 and, as a result of the discussions with Mr. Baker-Beall, it has been agreed to allot £91,000 for this purpose from the Colonial Development and Welfare allocation and £50,000 from loan funds. I shall be prepared to consider, as a charge against this reserve, any schemes which are likely to increase the economic resources of Zanzibar or to improve the financial position of the Government. I regard the reserve as being primarily designed for economic schemes, but it would not be kept indefinitely unused if no such schemes emerge. I propose in a later paragraph that the whole programme should be reviewed in three years time and the utilisation of this reserve would necessarily form a prominent part of that review. It may be for example that, if £45,000 does not prove sufficient for the drainage scheme, additional finance for this could at a later date be found from the reserve. In any case the drainage scheme, although not an economic scheme in the ordinary sense, is, I understand, likely to produce additional revenue, especially if the reclaimed land can be used for housing.

12. Allowing £42,000 for expenditure during the ten year period on schemes already approved for assistance from the Colonial Development and Welfare Vote and also for the reserve of £141,000, the total cost of the programme, excluding education, would be £960,000. This would absorb the whole of the proceeds of the loan of £250,000 which it has been agreed to raise, and in addition £200,000 from revenue or surplus balances and £510,000 from the Colonial Development and Welfare allocation. An amount of £240,000 would remain in the Colonial Development and Welfare allocation to be devoted to education, and it follows that, if an education programme costing £500,000 is to be undertaken during the ten year period, £260,000 of this will have to be found from revenue or surplus balances. Allowing for the £200,000 required from revenue or surplus balances for the health and town improvement schemes, to which reference has just been made, the total amount required from revenue or surplus balances would be £460,000. Mr. Baker-Beall states that, after providing for the retention of a reserve of £400,000 it would be reasonable to allocate £120,000 from surplus balances towards the cost of the development programme. A total of £340,000 would therefore have to be found from revenue over the ten year period. The total additional recurrent commitment over the 1944 level created by the development programme would be between £60,000 and £70,000 per annum, of which £43,000 would be required for education, £18,000 for health and £6,000 for agriculture.

13. It is against this background that the financial aspect of the education section of the programme must be considered and it has provided the main problem during the recent discussions. If an education programme costing £500,000 is to be undertaken, this will account for more than a third of the whole development programme and I have had to consider very seriously whether the allocation of so large a proportion of the available funds to education is justified and whether so comparatively expensive an education scheme can safely be approved. In support of the education scheme as it now stands it has been pointed out that any further substantial reduction would throw the whole scheme out of joint, would seriously prejudice educational development and would involve a retrogression from the plans made by Mr. Harvey's predecessors. It has further been pointed out that a large expansion of education is necessary if the people of Zanzibar are to develop socially, economically and politically. Mr. Harvey has explained that during recent years the previous rather apathetic attitude of the mass of the people towards education has changed and that there is now a strong public demand for the increase of educational facilities. It has therefore been argued that it is most important for Government to be prepared to embark on a bold education programme and it is suggested that now is the psychological moment for this programme to be launched. I have every sympathy with these views and I am anxious that rapid progress should be made with the development of education in Zanzibar. At the same time I consider that the solution of the problem lies in the hands of the people of Zanzibar themselves. It is clear from the survey in the preceding paragraphs that only a limited portion of the education programme as it now stands can be financed from the Colonial Development and Welfare Vote. If the full £500,000 programme is to be undertaken the major part of the money required must be provided from local sources by means of increased taxation. Mr. Baker-Beall has stated that the additional annual revenue of from £60,000 to £70,000 a year, required primarily for the education programme but also in part for the health programme, can be found, and I will discuss in a later paragraph the means by which it is to be found. If you confirm Mr. Baker-Beall's view and if the Zanzibar Legislative Council is prepared to agree to the additional taxation which will be required, then I for my part shall be prepared, subject to Treasury agreement to the necessary grant from the Colonial Development and Welfare Vote, to approve the education programme as it now stands. In view, however, of the large element of Zanzibar revenue which is needed for the financing of the programme, I feel bound to make my approval of it conditional on the Zanzibar Government and Legislative Council agreeing to produce this additional revenue.

14. I suggest therefore that if you and your advisers agree with the analysis of the financial problem given above, you should lay the whole picture at an early date before the Legislative Council. The manner of doing this is for you to decide, but the best procedure might be to present a White Paper to the Legislative Council giving in broad outline the development programme as it now stands. You would at the same time explain that the carrying out of the education section of the programme depends on the public of Zanzibar being prepared to bear the additional taxation which will be necessary to provide the finance required. You would point out that the scale of the education programme depends on the decision taken by the Legislative Council. If you are then able to report to me that the additional revenue will be found, I will immediately take steps to seek Treasury agreement for a grant of £240,000 from the Colonial Development and Welfare Vote towards this programme, on the understanding that the remaining £260,000 will be found from revenue or surplus balances.

15. To sum up, subject to the agreement of the Treasury to the making of the necessary grants from the Colonial Development and Welfare Vote, I approve the agriculture, town improvement and health programmes on the basis stated

above. I shall be prepared, again subject to Treasury concurrence, to approve the education programme on the basis stated above on condition that the Zanzibar Government and Legislative Council are prepared to agree to provide the additional revenue required to finance the programme. I ask that a reserve of £141,000 should be earmarked from the Colonial Development and Welfare Vote and from loan funds primarily with the object of financing any schemes which may subsequently be put forward with the object of increasing the economic resources of Zanzibar. As the completion of the whole programme will depend to so considerable an extent on revenue, I consider it prudent to lay it down that its execution should be reviewed after three years in the light of the financial position as it then is, although pending this review the programme can be carried into effect on the full scale approved.

16. On the above basis the following table shows the total cost of the programme as it now stands and the manner in which it is proposed to finance it:—

	Colonial Development and Welfare	Loan	Surplus Balances or Revenue	Total
	£	£	£	£
Agriculture ...	127,000	—	—	127,000
Education ...	240,000	—	260,000	500,000
Health ...	150,000	50,000	140,000	340,000
Town Improvement:				
(a) Zanzibar Native Town ...	100,000	105,000	60,000	265,000
(b) Drainage ...	—	45,000	—	45,000
Existing Schemes ...	42,000	—	—	42,000
Reserve for further economic projects ...	91,000	50,000	—	141,000
	750,000	250,000	460,000	1,460,000

17. Mr. Baker-Beall has discussed with the Crown Agents for the Colonies the arrangements which will be required for raising loan funds up to £250,000 under the inter-Colonial loan scheme, subject to Treasury approval. The Crown Agents have indicated the legislation which will be needed in Zanzibar and I suggest that steps should now be taken to pass the enabling ordinances, although you will not, I feel sure, wish actually to raise any loan money at present, since the capital expenditure ultimately to be charged to loan can for the present be financed from surplus balances as an interim measure. As I have said, I am seeking Treasury agreement for grants from the Colonial Development and Welfare Vote to finance the agricultural programme and towards the financing of the town improvement and health programmes. I will inform you as soon as a decision has been taken on these grants. I understand from Mr. Baker-Beall and Mr. Harvey that the delay in giving final approval for the education programme will not affect educational expansion in 1946, since the necessary additional recurrent funds have been provided in the estimates. I understand that no provision has been made in the estimates for the capital cost of educational development, but any preparatory work which is required can no doubt be financed by supplementary provision pending final approval of the programme.

18. My advisers have discussed in detail with Mr. Baker-Beall the means of raising the additional revenue of £60,000 to £70,000 which will be needed to provide the finance for the programme. He has suggested that £10,000 of this should be found by imposing a personal tax of £3 a year, as part of the income tax system, and I have no comments on this suggestion. He proposes that the major part of the additional revenue should be provided by increased customs duties. This would admittedly fall to a large extent on the poorer classes of the community, but Mr. Baker-Beall explains that it is they who will benefit principally from the development programme. At present they are paying no direct taxation and are therefore in a more favourable position than the corresponding people on the mainland, although in fact, speaking generally, they have a considerably higher income. I appreciate the force of these arguments and I am prepared to agree that some part of the additional revenue should be found by increasing certain of the customs duties. At the same time I would prefer that, at any rate as a long-term measure, a substantial part of the sum proposed to be raised by increased customs duties should be found from direct rather than indirect taxation. I understand from Mr. Baker-Beall that it would be difficult to impose a land or property tax, since it has been publicly declared by Government in the past that the existing clove export duty is regarded as a substitute for direct taxation on agricultural production. It appears therefore that if direct taxation is to be imposed on the mass of the population this will have to be by means of some form of poll tax, which would not, Mr. Baker-Beall thinks, be open to the same objection. One suggestion which has been made is that such a tax should be

called an education levy. The proceeds would not of course be earmarked for education, but would be paid into general revenue, but the immediate reason for imposing the levy would be the large demands of the education programme, and the identification of the levy with education might therefore be appropriate and might make the levy more acceptable to the public. If however this is done it is important that it should be made clear that Government is under no commitment to earmark the proceeds of the tax for education, since it might later be embarrassing if the impression were allowed to develop in the public mind that this form of direct taxation was limited to providing funds for one specific purpose only.

19. I should be grateful if you would consider these alternative possibilities, but it is clearly necessary that, in order that the education programme may be approved, a commitment should be entered into without delay that additional revenue will be found by means of increased taxation. I should see no objection therefore to your arranging to find the major part of the additional revenue required by increased customs duties as a purely temporary measure pending the raising of part of the money by means of direct taxation. In order to mark the temporary character of the measure the increases might be imposed, if you consider this method appropriate, by an ordinance requiring annual renewal. I would point out also that, although the whole of the £60,000 to £70,000 per year may not strictly be required until the latter part of the ten year period, I regard it as important that as large a part of it as possible should be found as quickly as possible. If the surplus revenue obtained in this way were paid into surplus balances, it could be earmarked for subsequent development expenditure, thus strengthening the financial position and providing additional security for the execution of the development programme.

20. Finally I wish to emphasise the importance which I attach to the association of the people themselves with the development programme. The natural way to have raised part at any rate of the additional revenue required for the education programme would have been for local authorities to impose an education rate, but Mr. Baker-Beall tells me that local government is still in so early a stage in Zanzibar that it would be most uneconomical at present to attempt to raise the additional revenue in this way and might indeed prove to be quite impracticable. Naturally I accept this view, but I consider it essential that the Zanzibar Government should press forward energetically with the process already started of building up the local government machinery and the establishment of advisory bodies at the centre on which unofficial representatives can work in close contact with Government officers. I regard this as an essential part of the development programme as a whole. If the people of Zanzibar are to be identified with the development programme as closely as is demanded by its importance to the future of Zanzibar and by the extent to which they are to be called upon to finance it, it is important that they should be closely associated with the execution of the programme. To this end it seems to me desirable that wherever possible advisory committees should be set up, with strong unofficial representation, which would be associated with the head of department concerned in keeping each part of the development programme under review. These committees, as their name implies, would be purely advisory and in no sense executive; but they would perform a valuable function as a link between the Government Department concerned and the public and in making the actions of the Government more widely known locally. I understand from Mr. Harvey that advisory committees on education have already been established. I consider that, if it has not already been done, this should be extended to other departments and in particular committees with unofficial representation might be set up to deal with health, agriculture and town improvement, which form, with education, the principal features of the development programme. Every effort should also be made to press on with the development of local government in the districts so as to ensure that the public interest in the development programme is not confined to the centre, but is also extended throughout the two Islands. I realise that progress with the building up of local government must necessarily be gradual and must to some extent depend on the extension of education, but it should, in my view, be regarded as one of the major functions of the administration and of the Government generally. You should indeed look forward to a time when local government bodies may be given financial as well as administrative responsibilities. The healthy development of local government is, in my view, essential if the people are to play their full part in the political and administrative life of the Islands and if the development programme which is the subject of this statement is to be of full benefit to the Islands.